Bet v 1 a Birch all Birch pol

Abg66958 E
Abg671015 E
Abg671015 E
Abg671019 E
Abg671010 E
Abg671010 E
Abg66901 E
Abg667101 E
Abg67101 E
Abg6721 E
Abg7721 E
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Chimeric Chimeric Grass/Bir

Grass/Bir Birch/Gra

Birch all Birch all

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The present invention relates to a new composition containing antiallergic peptides useful in the treatment of allergic diseases. The present peptide is an non-allergenic Bet v 1 derived synthetic peptide,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  which does not contain Bet v 1-specific T-cell epitopes
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 100.0%; Score 129; DB 5;
100.0%; Pred. No. 5.4e-15;
Live 0; Mismatches 0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ω
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Non-allergenic; Bet v 1-derived peptide; allergy.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Allergy vaccines comprise a peptide containing
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ď
                                                                                                                                                                                                                                                                                                                                                                                 ALIGNMENTS
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                             ABG67101
ABG6605
ABG67090
ABG66051
ABG66060
ABG66060
ABG6000
ABG67100
ABG66970
ABG670
ABG70
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Bet v 1-derived synthetic peptide #1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Example 1; Page 6; 27pp; English.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ABB83630 standard; peptide; 25
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Sperr WR,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                28-DEC-2000; 2000EP-00128659
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 28-DEC-2000; 2000EP-00128659
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Best Local Similarity
Local 25; Conserva
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 WPI; 2002-559804/60
 Sequence 25 AA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  EP1219299-A1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 10-OCT-2002
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Birch all
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Tree alle
                                                                                                                                      (without alignments)
290.247 Million cell updates/sec
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Description
                                                                                                                   April 17, 2006, 09:42:18; Search time 37.8453 Seconds
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Adc34898
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                    GenCore version 5.1.7
Copyright (c) 1993 - 2006 Biocceleration Ltd.
                                                                                                                                                                                                                                                                                                                                      2443163
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                                                                                                                                                                                                                                                                                                    2443163 segs, 439378781 residues
                                                                                                                                                                                                                     1 MGVFNYETETTSVIPAARLFKAFIC
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                                                                                    protein search, using sw model
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         AAY25649
ADC34898
ADQ14386
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Gapop 10.0 , Gapext 0.5
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geneseqp2003as:*
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geneseqp2004s:*
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Post-processing:

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Sequence:

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Scoring table:

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1 MGVFNYETETTSVIPAARLFKAFIC 25

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Conservative

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us-10-026-911-1.rag

AAR04605;

RESULT 2 AAR04605

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This invention describes a novel method of desensitizing a patient to a polypeptide allergen and comprises administering to the patient a peptide derived from the allergen where restriction to a MHC Class II molecule possesses by the patient can be demonstrated for the peptide and the peptide is able to induce a late phase response in an individual who possesses the MHC class II molecule. The methods can be used for cesensitising patients to allergens present in e.g. grass, tree and weed (including ragweed) pollens, fungi and moulds, foods, stinging insects, the chiromidae (non-biting midges), spiders and mites, housefly, fruit cily, sheep blow fly, screw worm fly, grain weed, i, silkworm, honeybee, non-biting midge larvae, bee moth larvae, mealworm, cockroach, larvae of Tenibrio molitor beetle, mammals such as cat, dog, horse, cow, pig, sheep, rabbit, rat, guinea pig, mice or gerbil. They can also be used to produce immunological vaccines which may be used to prevent and/or treat conditions involving hypersensitivity to allergens. This sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       allergen; antigen; hyporesponsive; desensitisation; immunomodulator; gene therapy; birch.
mice; gerbil; vaccine; treatment; prevention; hypersensitivity.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 , Match 93.0%; Score 120; DB 2; Length 160; Local Similarity 100.0%; Pred. No. 2e-12; les 24; Conservative 0; Mismatches 0; Indels
                                                                                                                                                                                                                                                                                                                                                                                   Desensitizing patients to polypeptide allergens
                                                                                                                                                                                                                                                              (IMCO-) IMPERIAL COLLEGE INNOVATIONS LTD
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     24
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Example 6; Page 68; 117pp; English
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ADC34898 standard; protein; 160
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         05-DEC-2002; 2002WO-GB005548.
                                                                                                                                                             99WO-GB000080
                                                                                                                                                                                                     98GB-00000445
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                                                                                                                                                                                                                                                                                                                                              WPI; 1999-458255/38
                                                                                                                                                                                                                                                                                                        Kay AB;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Sequence 160 AA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              WO2003047618-A2.
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                                                                                                                                                           11-JAN-1999;
                                                                                                                                                                                                     09-JAN-1998;
                                                                               WO9934826-A1
                                                                                                                                                                                                                        21-SEP-1998;
                                                                                                                       15-JUL-1999.
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                                       Betula sp.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  The gene encoding this protein is highly homologous with the disease-
resistance gene of the pea, which is only expressed in contact with plant
gathogens. It is thus expected that upon insertion into plants the
allergen gene will cause expression of a resistance protein under
conditions of stress or in contact with a pathogen
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Identifying allergen expressing nucleotide sequences in clone bank - by reacting with IgE from allergy patients, and new sequenced encoding major
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Major histocompatibility complex, class II, desensitising; human, allergen; grass; tree; weed; pollen; fungi; mould; food; insect; sting; chiromidae; spider; mite; housefly; fruit fly; sheep blow fly; honeybee; screw worm fly; grain weevil; silkworm; bee moth; larvae; mealworm; cat; cockroach; beetle; dog; horse; cow; pig; sheep; rabbit; rat; guinea pig;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Breitenede H;
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0
                                                                                                                                                                                                                        major birch allergen; cDNA clone bank; IgE; Betula verrucosa.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  93.0%; Score 120; DB 2; Length 160; 100.0%; Pred. No. 2e-12; ive 0; Mismatches 0; Indels
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                                                                                                                                                                                                                                                                                                                             83. .85
/label= putative glycosylation site
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                                                                                                                                                                                                                                                                                                        Location/Qualifiers
                                                               AAR04605 standard; protein; 160 AA.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              AAY25649 standard; protein; 160 AA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           MGVFNYETETTSVIPAARLFKAFI
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Claim 8; Fig 10; 59pp; German.
                                                                                                                                                                                  Major Birch allergen Bet v I.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                       88AT-00002554
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Kraft D, R
Valenta R;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             N-PSDB; AAQ04346
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Sequence 160 AA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               birch allergen.
                                                                                                                                                                                                                                                                                                                             Modified-site
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Breitenbac M,
Pettenburg K,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                       14-OCT-1988;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               14-OCT-1988;
                                                                                                                                            20-SEP-1990
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              30-SEP-1999
                                                                                                                                                                                                                                                                                                                                                                                        WO9004025-A
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                                                                                                                                                                                                                                                                    Synthetic
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Query Match Matches

ò 엄 RESULT 3

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Gaps

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Tue Apr 18 11:54:25 2006

GenCore version 5.1.7 Copyright (c) 1993 - 2006 Biocceleration Ltd.

OM protein - protein search, using sw model

Run on:

April 17, 2006, 09:43:45 ; Search time 12.8453 Seconds

(without alignments)
187.261 Million cell updates/sec

US-10-026-911-1 Perfect score: Title:

129 1 MGVFNYETETTSVIPAARLFKAFIC 25 Sequence:

Scoring table:

Searched:

283416 seqs, 96216763 residues Gapop 10.0 , Gapext 0.5 BLOSUM62

283416

Total number of hits satisfying chosen parameters:

Minimum DB seq length: 0 Maximum DB seq length: 2000000000

Post-processing: Minimum Match 0% Maximum Match 100% Listing first 45 summaries

Database

PIR 80: * 1: pirl: * 2: pir2: * 3: pir3: * 4: pir4: *

Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

STRAMARTES

		d			SUMMARIES	
Result No.	Score	Query Match	* Query Match Length	DB	ID	Description
1	120	93.0	160	~	- 69	en al
8	120	~	160	7	805376	
m	116	89.9	160	~	F55699	
4	116	89.9	160	~	A57427	or pollen al
S	116	٠.	160	7	H55699	
9	116	۳.	160	7	B55699	en
7	115	Ψ.	160	7	G55699	占
æ	115	·	160	7	D55699	or pollen
6	115		160	7	T17005	or allerge
10	114	ന	160	~	C55699	major pollen aller
11	113	87.6	160	7	155699	major pollen aller
12	109	84.5	160	N	E55699	
13	108	Ψ.	160	N	S30055	major allergen Cor
14	108	83.7	160	7	847250	gene 1-Sc1 protein
15	108	83.7	160	7	T17007	c allergen
16	108	83.7	160	7	T17006	major allergen Mal
17	104	90.6	44	0	A53288	
18	103	6	51	7	B45786	: pollen
19	103	6	159	7	847251	Sc2 prot
20	102	79.1	159	7	T17004	aller
21	102	ď.	160	7	S30053	major allergen Cor
22	102	6	160	7	S30054	allergen
23	97	'n	40	7	C53288	pollen al
24	94	72.9	160	7	S30056	
25	93	ά.	51	~	A45786	polle
26	92	ä	160	~	S47249	1-Sc3 protei
27	82	65.9	24	~	N	major allergen - E
28	85	'n	157	~	T09659	pathogenesis-relat
29	85	ŝ	157	0	o.	stress response ge

pathogenesis-relat major allergen Mal	pathogenesis-relat pathogenesis-relat disease resistance	hypothetical prote pathogenesis-relat seed protein ws-6	STH-2 protein - po STH-21 protein - p major pollen aller	MalD1 protein - ap pathogenesis-relat pathogenesis-relat	hypothetical prote TSI-1 protein - to
S42650 JC4276	S47140 T06527 T06768	S20517 SNFB1 F61491	\$35161 \$35162 D53288	S51119 SNFB2 T14918	\$20518 T07403
158 2	158 2 158 2 159 2	158 2 156 1 23 2	155 2 155 2 24 2	153 2	158 2
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85	76 68 68	62 62	61 61 59	50 20	57
30	3 3 3 3 3 3 4 3 3	35 36	. w w 4	444	4 4 5

ALIGNMENTS

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major pollen allergen Bet v 1b - European white birch
C;Species: Betula pendula (European white birch)
C;Date: 01-Dec-1995 #sequence_revision 01-Dec-1995 #text_change 09-Jul-2004
C;Accession: A55699; 841401
R;Swoboda, I.; Jilek, A.; Ferreira, F.; Engel, E.; Hoffmann-Sommergruber, K.; Scheiner,
                                                                                                                                                                                                                                                July Chem. 270, 2607-2613, 1995

A; Title: Isoforms of Bet v 1, the major birch pollen allergen, analyzed by liquid chrom A; Title: Isoforms of Bet v 1, the major birch pollen allergen, analyzed by liquid chrom A; Reference number: A55699; MUID: 95155322; PMID: 7852325

A; Molecule type: mRNA
A; Residues: 1-160 cSMO-
A; Residues: 1-160 cSMO-
A; Cross-references: UNIPROT: P45431; UNIPARC: UPIO00016DCF5; EMBL: X77200; NID: 9450884; PI
A; Note: the source is designated as Betula verrucosa
C; Superfamily: pathogenesis-related protein
C; Keywords: pollen
F; 2-160/Product: major pollen allergen Bet v 1b #status experimental cMAT>
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100.0%; Prec. ... Best Local Similarity 100. Matches 24; Conservative

1 MGVFNYETETTSVIPAARLFKAFI 24 1 MGVFNYETETTSVIPAARLFKAFI 24

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major pollen allergen Bet v 1 - Buropean white birch
C;Species: Betula pendula (European white birch)
C;Species: Jar.Mar-1990 #sequence_revision 31-Mar-1990 #text_change 09-Jul-2004
C;Accession: S05376; JC4834; B52388
R;Breiteneder, H.; Pettenburger, K.; Bito, A.; Valenta, R.; Kraft, D.; Rumpold, H.; Sch
BMBO J. 8, 1935-1938, 1989
A;Title: The gene coding for the major birch pollen allergen BetvI, is highly homologou
A;Reference number: S05376; MUID:90005395; PMID:2571499

A;Accession: S05376
A;Molecule type: mRNA
A;Residues: 1-160 <BRE>
A;Crossa-references: UNIPROT: P15494; UNIPARC: UPI0000000314; EMBL: X15877; NID: g17937; PID
B;Kungl, A.J.; Susani, M.; Lindemann, A.; Machius, M.; Visser, A.J.W.G.; Scheiner, O.;
Biochem. Biophys. Res. Commun. 223, 187-192, 1996
A;Title: Evidence for an alpha helical T cell epitope in the C-terminus of the main bir
A;Reference number: JC4834; MUID: 96254050; PMID: 8660368

A, Accession: JC4834 A, Status: nucleic acid sequence not shown A, Molecule type: mRNA A, Residues: 1-160 «KUN»

A; Cross-references: UNIPARC:UPI000000314

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submitted to the EMBL Data Library, October 1994
A, Description: Isoforms of BETV1, the major birch pollen allergen, analyzed by liquid ci
A, Reference number: 849450
A, Reference mumber: 849450
A, Status: preliminary
A, Molecule type: mRNA
A, Molecule type: mRNA
A, Residues: 1-160 < ENG>
A, Cross-references: UNIPARC: UPIO00016DCFE; EMBL: X82028; NID: 9807869; PIDN: CAA57550.1; Pr
A, Note: the source is designated as Betula verrucosa
C, Superfamily: pathogenesis-related protein
C, Keywords: pollen
F;2-160/Product: major pollen allergen Bet v lm/n #status experimental <MAT>
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A;Residues: 1-160 <SMO>
A;Residues: 1-160 <SMO>
A;Cross-references: UNIPROT:P43184; UNIPARC:UPI000016DCFC; EMBL:X77272; NID:g458478; PI¹
A;Ove: the source is designated as Betula verrucosa
C;Superfamily: pathogenesis-related protein
C;Keywords: pollen
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A;Accession: B55699
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A;Title: Isoforms of Bet v 1, the major birch pollen allergen, analyzed by liquid chrom. A;Reference number: A55699; MUID:95155322; PMID:7852325
A;Accession: H55699
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major pollen allergen Bet v 1c - European white birch
C;Species: Betula pendula (European white birch)
C;Date: 01-Dec-1995 #sequence_revision 01-Dec-1995 #text_change 09-Jul-2004
C;Accession: B55699; S41897
R;Swoboda, I.; Jilek, A.; Ferreira, F.; Engel, E.; Hoffmann-Sommergruber, K.; Scheiner,
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C;Date: Ol-Dec-1995 #sequence_revision 01-Dec-1995 #text_change 09-Jul-2004
C;Accession: H55699; 841903
R;Swoboda, I.; Jilek, A.; Perreira, F.; Engel, E.; Hoffmann-Sommergruber, K.; Scheiner,
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Pred. No. 8.6e-12;
1; Mismatches 0; Indels
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Pred. No. 8.6e-12;
1; Mismatches 0; Indels
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Pred. No. 8.6e-12;
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95.8%;
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1 Similarity 95.8%;
23; Conservative
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Best Local Similarity
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A;Reference number: A55699; MUID:95155322; PMID:7852325
A;Accession: F55699
A;Rolecule type: mRNA
A;Residues: 1-160 <SWO.
A;Crossereferences: UNIPROT:P43180; UNIPARC:UPI000016DCFA; EMBL:X77269; NID:g452727; PID
A;Note: the source is designated as Betula vertucosa
C;Superfamily: pathogenesis-related protein
C;Superfamily: pathogenesis-related protein
F;2-160/Product: major pollen allergen Bet v 1g #status experimental <MAT>
F;2-160/Product: carbohydrate (Asn) (covalent) #status absent
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A;Title: Isoforms of Bet v 1, the major birch pollen allergen, analyzed by liquid chroma A;Title: Isoforms of Bet v 1, the major birch pollen allergen, analyzed by liquid chroma A;Reference number: A55699; MUID:95155322; PMID:7852325
A;Accession: A57427
A;Molecule type: mRNA
A;Residues: 1-160 <SWO>
A;Residues: 1-160 <SWO>
B;Crossicues: UNIPRROT:P43186; UNIPARC:UPI000016DCFE; GB:X81972; NID:9807868; PIDN: R;Engel, E.; Kraft, D.; Scheiner, O.; Breitenbach, M.; Ferreira, F.
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major pollen allergen Bet v lm/n - European white birch
().Species: Betula pendula (European white birch)
().Species: Betula pendula (European white birch)
().Betulate: 01-Dec-1995 #sequence_revision 01-Dec-1995 #text_change 09-Jul-2004
().Accession: A57427; S49450
().RySwoboda, I.; Jilek, A.; Ferreira, F.; Engel, E.; Hoffmann-Sommergruber, K.; Scheiner,
                                       Mol. Immunol. 28, 1279-1288, 1991
A,Title: The NH2-terminal amino acid sequence of the immunochemically partial identical s) Car b I and oak (Quercus alba) Que a I pollens.
A,Reference number: A53288; MUID:92072607; PMID:1961201
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   major pollen allergen Bet v 1g - European white birch
C;Species: Betula pendula (Buropean white birch)
C;Dater - Dec-1995 #sequence_revision 01-Dec-1995 #text_change 09-Jul-2004
C;Accession: F55699; S41896
R;Swoboda, I.; Jilek, A.; Ferreira, F.; Engel, E.; Hoffmann-Sommergruber, K.; Scheiner,
                                                                                                                                                                                 A.Accession: B53288
A.Status: preliminary
A.Molecule type: protein
A.Residues: 2-39, 7XX',42-44 <IPS>
A.Coss-references: UNIPARC:UPI0000177F58; PID:g239734; PIDN:AAB20452.1
A.Cross-references: UNIPARC:UPI0000177F58; PID:g239734; PIDN:AAB20452.1
A.Cross-references: UNIPARC:UPI0000177F58; PID:g239734; PIDN:AAB20452.1
A.Cross-references: UNIPARC:UPI0000177F58; PID:g239734; PIDN:AAB20452.1
A.Note: sequence extracted from NCBI backbone (NCBIP:68408)
A.Note: the source is designated as Betula verrucosa
G.Comment: This protein induces IgE synthesis by B cells in a T cell dependent manner.
G.Superfamily: pathogenesis-related protein
C.Keywords: pollen
C.Keywords: pollen
F;2-160/Product: major pollen allergen Bet v 1 #status experimental <MAT>
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nes 24; Conservative 0
                  R; Ipsen, H.; Hansen, O.C.
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MEDLINE=99437514; PubMed=10509815; DOI=10.1016/S0161-5890(99)00078-4;
Friedl-Hajek R., Radauer C., Riordain G., Hoffmann-Sommergruber K.,
Leberl K., Scheiner O., Breiteneder H.;
New Bet v I isoforms including a naturally occurring truncated form
of the protein derived from Austrian birch pollen.";
MOI. Immunol. 36:639-645(1999).
EMBL; AJ006913; CAA07328.1; -; mRNA.
HSSP; PI5494; 186F.
SNR; Q9SCH7; 2-119.
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Bukaryota, Viridiplantae, Streptophyta, Embryophyta, Tracheophyta;
Spermatophyta, Magnoliophyta; eudicotyledons; core eudicots; rosids;
eurosids I; Fagales; Betulaceae; Betula.
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Eukaryota; Viridiplantae; Streptophyta; Embryophyta; Tracheophyta;
Spermatophyta; Magnoliophyta; eudicotyledons; core eudicots; rosids;
eurosids I; Fagales; Betulaceae; Betula.
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Pred. No. 6.9e-12;
0; Mismatches 0; Indels
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1-MAY-2000 (TrEMBLrel. 13, Last sequence update)
01-UNY-2003 (TrEMBLrel. 24, Last annotation update)
Pollen allergen Betv1, isoform at14.
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Last annotation update)
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042499 BETVE
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093550 WALDO
093824 9ROSI
095382 CARBE
096382 CARBE
096382 CARBE
095648 BETVE
BEVIC BETVE
BEVIC BETVE
                                                                                                                                                    ALIGNMENTS
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NUCLEOTIDE SEQUENCE.
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Name=betv1;
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                                                                 April 17, 2006, 09:43:29; Search time 42.1271 Seconds (without alignments) 418.691 Million cell updates/sec
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03942gil
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09636cil
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O23754
Q39453
           5.1.7
Biocceleration Ltd.
                                                                                                                                                                                         of hits satisfying chosen parameters:
                                                                                                                                                                       2166443 segs, 705528306 residues
                                                                                                                        1 MGVFNYETETTSVIPAARLFKAFIC 25
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Q96370_BETVE
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Q9SCH6 BETVE
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Maximum Match 100%
Listing first 45 summaries
                                                 - protein search, using sw model
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Gapop 10.0 , Gapext 0.5
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1: uniprot_sprot:*
2: uniprot_trembl:*
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seq length: 200000000
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Match Length DB
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TISSUE=Pollen;
MEDLINE=99437514; PubMed=10509815; DOI=10.1016/S0161-5890(99)00078-4;
                                                                                                                                                                                                                                                                                                                                                                                               Friedl-Hajek R., Radauer C., Riordain G., Hoffmann-Sommergruber K., Leberl K., Scheiner O., Breiteneder H.;
"New Bet v 1 isoforms including a naturally occurring truncated form of the protein derived from Austrian birch pollen.";
Mol. Immunol. 36:639-645(1999).
EMBL, AJ066914; CAA07329.1; -; mRNA.
HSSP; P15994; 1801.
SMR; Q95CH6; 2-160.
                                                                                                                          Betula verrucosa (White birch) (Betula pendula).
Eukaryota; Viridiplantae; Streptophyta; Embryophyta; Tracheophyta;
Spermatophyta; Magnoliophyta; eudicotyledons; core eudicots; rosids;
eurosids 1; Fagales; Betulaceae; Betula.
NCBI_TaxID=1505;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       93.0%; Score 120; DB 2; Length 160; 100.0%; Pred. No. 9.6e-12; ive 0; Mismatches 0; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       5A416C0518E58C15 CRC64;
01-MAY-2000 (TrEMBLrel. 13, Created)
1-MAY-2000 (TrEMBLrel. 13, Last sequence update)
101-UNN-2003 (TrEMBLrel. 24, Last annotation update)
Pollen allergen Betv1, isoform at5.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               InterPro; IPR000916; Bet v I. Pfam; PF00407; Bet v I; I. PRINTS; PR00634; BETALLERGEN.
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Q9SYW1;
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Matches 24, Conservative
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                                                                                                                    Name=betv1;
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                                                                                                        MEDLINE=99437514; PubMed=10509815; DOI=10.1016/S0161-5890(99)00078-4; Friedl-Hajek R., Radauer C., Riordain G., Hoffmann-Sommergruber K., Leberl K., Scheiner O., Breiteneder H.; Leberl K., Scheiner O., Breiteneder H.; Marw Bet v. 1 isoforms including a naturally occurring truncated form of the protein derived from Austrian birch pollen."; Mal. Ramunol. 36:639-645(1999).

EMBL; AJ006905; CAA07320.1; -; mRNA.

EMBL; AJ006905; CAA07320.1; -; mRNA.

InterPro; IPR000916; Bet v. I.

Pfam; PF00407; Bet v. I.

PRINTS; PR00634; BETALLERGEN.
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MEDLINE=97471499; PubMed=9332353; DOI=10.1016/S0378-1119(97)00246-1;
HOFfmann-Sommergruber K., Vanek-Krebitz M., Radauer C., Wen J.,
HOFfmann-Sommergruber K., Vanek-Krebitz M., Radauer C., Wen J.,
Genomic characterization of members of the Bet v 1 family: genes
coding for allergens and pathogenesis-related proteins share intron
positions.";
Gene 197:91-100(1997).
EMBL; Z77438; CAA96547.1; -; Genomic_DNA.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       01-NOV-1996 (TrEMBLrel. 01, Created)
01-NOV-1996 (TrEMBLrel. 01, Last sequence update)
01-NOV-1996 (TrEMBLrel. 24, Last annotation update)
01-JUN-2003 (TrEMBLrel. 24, Last annotation update)
Major allergen Bet v 1.
Major allergen Bet v 1.
Metula vernucosa (White birch) (Betula pendula).
Bukaryota; Viridiplantae; Streptophyta; Embryophyta; Tracheophyta;
(Spermatophyta; Magnoliophyta; eudicotyledons; core eudicots; rosids;
MCBI_TaxID=3505;
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SEOUENCE 120 AA; 13055 MW; 95EB4309C4CB4CBF CRC64;
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E 160 AA; 17640 MW; 3CCEF6B15EB655E5 CRC64;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Score 120; DB 2; L; Pred. No. 6.9e-12; 0; Mismatches 0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   93.0%; Scott 100.0%; Pred. No. cotton 0; Mismatches
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Matches 24; Conservative 0; Mismatches
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InterPro; IPR000916; Bet v I.
Pfam; PF00407; Bet v I. I.
PRINTS; PR00634; BETALLERGEN.
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Q9SCH6 BETVE
ID Q9SCH6 BETVE PRELIMINARY;
AC Q9SCH6;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Local Similarity 100.
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                                                              SEQUENCE
     NCBI_TaxID=3505;
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Best Loc Matches

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RESULT 3 Q39431_BE

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                                                                                                                                                                                                                                                                                                                                                                                                                                  Son D.Y., Haustein D., Vieths S.; Submitted (JAN-1999) to the EMBL/GenBank/DDBJ databases. EMBL, AF124438, AAD26561.1; -; mRNA. HSSP. P15494; 1BVJ. SWR; Q9SYM1, 2-160. InterPro; IPR000916; Bet v_I. Pfam; PF00407; Bet v_I. T. PRING. PRODOM; PRODOM; PRINCS, PRO0634; BETALLERGEN. PRODOM; PRODOS31; Bet v_I; I. SEQUENCE 160 AA; 17565 MW; E9B5F580BBDAIAC5 CRC64;
                                                          01-WAY-2000 (TrEMBLrel. 13, Created)
01-WAY-2000 (TrEMBLrel. 13, Last sequence update)
01-JUN-2003 (TrEMBLrel. 24, Last annotation update)
18oallergen Bet v 1 b2.
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160 AA.
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160 AA.

PRT;

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(without alignments)
104.645 Million cell updates/sec
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GenCore version 5.1.7
Copyright (c) 1993 - 2006 Biocceleration Ltd.
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2: /cgn2_6/ptodara/1/iaa/6_COMB.pep:*
3: /cgn2_6/ptodara/1/iaa/H_COMB.pep:*
5: /cgn2_6/ptodara/1/iaa/PcTUS_COMB.pep:*
5: /cgn2_6/ptodara/1/iaa/RE_COMB.pep:*
6: /cgn2_6/ptodara/1/iaa/RE_COMB.pep:*
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Maximum Match 100%
Listing first 45 summaries
                                                                                                    OM protein - protein search, using sw model
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Maximum DB seq length: 200000000
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Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

		d			SUMMARIES	
Result No.	Score	Query Match	å Query Match Length	DB	ΩI	Description
1	120	93.0	160	-	US-07-847-010-23	Sequence 23, Appl
8	109	84.5	160	٦	US-07-847-010-3	Sequence 3, Appli
m	108	83.7	160	٦	US-07-847-010-17	17,
4	102	79.1	160	Н	US-07-847-010-11	11,
'n	102	79.1	160	Н	US-07-847-010-14	14,
φ	94	72.9	160	٦	US-07-847-010-20	20,
7	70	54.3	158	9	5312912-2	. 531
8	69	m	158	~	US-08-964-722-2	Sequence 2, Appli
6	48	37.2	304	~	US-09-328-352-6459	
10	47	36.4	976	~	US-08-750-141A-1	
11	45	34.9	166	~	US-09-583-110-4577	
12	45	34.9	320	~	US-09-252-991A-20760	Sequence 20760, A
13	44	34.1	241	~	US-09-248-796A-14409	144
14	44	34.1	462	-	US-08-752-307B-7	7
15	44	34,1	462	~	US-09-707-802-7	7
16	44	34.1	462	7	US-09-991-326-7	7
17	44	34.1	465	٦	US-08-752-307B-5	'n
18	44	34.1	465	N	US-09-707-802-5	'n
19	44	34.1	465	~	US-09-991-326-5	'n
20	43	33.3	68	N	US-09-248-796A-25546	25
21	43	33.3	523	~	US-09-270-767-43823	
22	43	33.3	2058	~	US-09-949-016-6835	
23	43	33.3	2111	α	US-09-949-016-10199	
24	42	32.6	265	~	US-09-543-681A-5709	
25	42	32.6	298	~	US-09-489-039A-8031	8031,
26	42	32.6	349	7	US-08-469-318-139	139,
27	42	32.6	349	7	US-08-468-609A-139	Sequence 139, App

Sequence 139, App Sequence 139, App Sequence 8, Appl Sequence 8903, Ap Sequence 6, Appl Sequence 6, Appl Sequence 6, Appl Sequence 645, App Sequence 168, App Sequence 166, App Sequence 166, App Sequence 166, App Sequence 166, App Sequence 166, App Sequence 2666, App Sequence 2666, App	
US-08-446-872A-139 US-08-762-227A-139 PCT-US55-01185-139 US-08-030-096-8 US-09-489-039A-8903 US-09-540-234-2727 US-09-318-493-6 US-09-318-493-6 US-09-318-493-6 US-09-318-493-6 US-09-318-493-6 US-09-531-0911 US-09-071-035-168 US-10-265-576-166 US-10-206-576-166 US-09-071-035-166 US-09-071-035-166 US-09-671-035-166 US-09-671-035-166 US-09-671-035-166 US-09-671-035-166 US-09-671-035-166 US-09-671-035-166 US-09-671-035-166 US-09-671-035-166 US-09-671-035-166	
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246 346 346 346 346 346 346 346 3	1 1 1
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ALIGNMENTS

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US-07-847-010-23

UG-07-847-010-23

Gaguence 23 Application US/07847010

Patent No. 569345

GARREAL INFORMATION:

APPLICANT: Britenader, Heimo

APPLICANT: Britenader, Heimo

APPLICANT: Britenader, Midchael

APPLICANT: Britenader, Otto

APPLICANT: Britenader, Otto

APPLICANT: Britenader, Grite

APPLICANT: Britenader, Otto

APPLICANT: Britenader, Fatian

TITLE OF INVENTION: Applications Thereof

NUMBER OF SOURNESS: 23

CORRESPONDERC PADDRESS: 23

COMPUTER: ISM FOCCOMPATIBLE

COMPUTER: ISM FOCCOMPATIBLE

COMPUTER: ISM FOCCOMPATIBLE

COMPUTER: ISM FOCCOMPATIBLE

COMPUTER: ISM FOCCOMPATION:

STATE: New YORK

COMPUTER: ISM FOCCOMPATION:

APPLICATION NUMBER: 30,280

CLASSIFICATION NUMBER: 6530-010

TELEDAMONICATION INFORMATION:

NAME: JOING ILL PENNIE

INFORMATION FOR ENG ID NO: 23:

EEGUENCE CHARACTERISTICE:

LENGTH: 160 amino acide

TOPOLOGY: linear

NOLECULE TYPE: peptide

HYPOTHERICAL: NO

ORIGINAL SURES:

MIDCACLE TYPE: peptide

HYPOTHERICAL: NO

ORIGINAL SURES:

MIDCACLE TYPE: peptide
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Query Match

83.7%; Score 108; DB 1; Length 160;
Best Local Similarity 83.3%; Pred. No. 9e-11;
Matches 20; Conservative 3; Mismatches 1; Indels
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                                                                                                                                                                                                                                                                                                        APPLICANT: William - Sommergruber, Karin APPLICANT: Breitenbach, Michael APPLICANT: Breitenbach, Michael APPLICANT: Kraft, Dietrich APPLICANT: Rumpold, Helmut APPLICANT: Scheiner, Otto APPLICANT: Scheiner, Otto APPLICANT: Bener, Christof APPLICANT: Ferreira, Fatima TITLE OF INVENTION: Allergens of Alder Pollen and TITLE OF INVENTION: Applications Thereof NUMBER OF SEQUENCES: 23
CORRESPONDENCE ADDRESS:
ADDRESSE: Pennie & Edmonds
STREET: New YOCK
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   STATE: New YORK
COUNTRY: U.S.A.
ZIP: 10036-2711
COMPUTER READBALE FORM:
MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC Compatible
COMPATICATION NUMBER: US/07/847,010
FILING DATE: 01-JUN-1992
CLASSIFICATION NUMBER: US/07/847,010
FILING DATE: 01-JUN-1992
ATTORIVEY/AGENT INFORMATION:
NAME: JOINE III, HARTY C
REGISTRATION NUMBER: 6530-010
TELEFRANCE/DOCKET NUMBER: 6530-010
TELEFRANCE/COKTET NUMBER: 6530-010
TELEFRANCE/COMPATION INFORMATION:
TELEFRANCE/CHAIN INFORMATION:
TELEFRANCE/COMPATION INFORMATION:
TELEFRANCE/COMPATION INFORMATION:
TELEFRANCE/COMPATION INFORMATION:
TELEFRANCE/CHAINER: (212) 780-9090
TELEFRANCE/CHAINER: (212) 780-971/8864
TELER: 66441 PENNIE
TELEFRANCE/CHAINER: (212) 780-9090
                                                                                                                                                                                                                           Breiteneder, Heimo
Reikerstorfer, Arnold
Valenta, Rudolf
Höffmann - Sommergruber, Karin
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          1 MGVFNYETETTSVIPAARLFKAFI 24
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           1 MGVFNYEAETPSVIPAARLFKAFI 24
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US-07-847-010-11
; Sequence 11, Application US/07847010
; Patent No. 5693495
; GENERAL INFORMATION:
; APPLICANT: Breiteneder, Heimo
                                                                                                                                             ; Sequence 17, Application US/07847010
; Patent No. 5693495
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ORGANISM: hazel (Corylus sp.)
| IMMEDIATE SOURCE:
| LIBRARY: POLLEN FROM ALLERGON US-07-847-010-17
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       : 160 amino acids amino acid
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           TOPOLOGY: linear
MOLECULE TYPE: peptide
HYPOTHETICAL: NO
                                                                                                                                                                                                    GENERAL INFORMATION:
APPLICANT: Breiten
APPLICANT: Reikers
APPLICANT: Valenta
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              STATE: New York
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ORIGINAL SOURCE:
                                                                                                                      US-07-847-010-17
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Best Local Similarity 91.7%; Pred. No. 6e-11;
Matches 22; Conservative 0; Mismatches 2; Indels
                                                                                                                                                   Length 160;
                                                                                                                                                                                                      Indels
; ORGANISM: birch (Betula sp.)
; IMMEDIATE SOURCE:
; LIBRARY: POLLEN FROM ALLERGON AB, ENGELHOLM, SWEDEN
US-07-847-010-23
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/07/847,010
FILING DATE: 01-01992
CLASSIFICATION: 435
ATTORNEY/AGENT INFORMATION:
NAME: Jones III, Harry CRESISTRATION NUMBER: 20,280
REFERENCE/DOCKET NUMBER: 6330-010
TELECOMMUNICATION INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     APPLICANT: Scheiner, Otto
APPLICANT: Ebner, Christof
APPLICANT: Ebner, Christof
APPLICANT: Ferreira, Fatima
TITLE OF INVENTION: Allergens of Alder Pollen and
TITLE OF INVENTION: Applications Thereof
TUMBER OF SEQUENCES: 23
CORRESPONDENCE ADDRESS:
                                                                                                                                             Query Match 93.0%; Score 120; DB 1; I
Best Local Similarity 100.0%; Pred. No. 7.5e-13;
Matches 24; Conservative 0; Mismatches 0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Reikerstorfer, Arnold
Valenta, Rudolf
Hoffmann - Sommergruber, Karin
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ADDRESSEE: Pennie & Edmonds
STREBT: 1155 Avenue of the Americas
CIIY: New York
STATE: New York
                                                                                                                                                                                                                                                                1 MGVFNYETETTSVIPAARLFKAFI 24
                                                                                                                                                                                                                                                                                             1 MGVFNYETETTSVIPAARLFKAFI 24
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ZIP: 10036-2711
COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
                                                                                                                                                                                                                                                                                                                                                                                                                                                      Sequence 3, Application US/07847010 Patent No. 5693495
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Breitenbach, Michael
Kraft, Dietrich
Rumpold, Helmut
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        (212) 790-9090
(212) 869-9741/8864
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Breiteneder, Heimo
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ORGANISM: Alder (Alnus sp.)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     LENGTH: 160 amino acids
TYPE: amino acid
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            TELEX: 66141 PENNIE INFORMATION FOR SEQ ID NO: SEQUENCE CHARACTERISTICS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   MOLECULE TYPE: peptide HYPOTHETICAL: NO
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    New York
: U.S.A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            GENERAL INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              TELEPHONE:
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Gaps

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1 MGVFNYETETTSVIPAARLFKAFI 24

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Appli Appli

Sequence 10, Sequence 11, Sequence 12, Sequence 3, A Sequence 5, A Sequence 5, A

Sequence 4 Sequence 7 Sequence 8

Sequence

Sequence 43, Sequence 44,

Sequence Sequence

Sequence:

Searched:

Database

Result Š.

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APPLICANT: Focke, Margarete
APPLICANT: Mahler, Vera
APPLICANT: Mahler, Vera
APPLICANT: Sperr, Wolfgang R.
APPLICANT: Valent, Peter
APPLICANT: Valent, Peter
APPLICANT: Valent, Mahler
APPLICANT: Valenta, Rudolf
TILE REFERENCE: 0273-0005
CURRENT APPLICATION NUMBER: US/10/026,911
CURRENT FILING DATE: 2002-07-24
NUMBER OF SEQ ID NOS: 6
SOFTWARE: Patentin Ver. 2.1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         100.0%; Score 129; DB 4; Length 25; larity 100.0%; Pred. No. 9.7e-14; Conservative 0; Mismatches 0; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     OTHER INFORMATION: Description of Artificial Sequence: OTHER INFORMATION: solvent-exposed peptide
US-09-847-208-42
US-10-001-245-2
US-10-001-245-4
US-10-001-245-4
US-10-001-245-10
US-10-001-245-10
US-10-001-245-10
US-10-40-516-3
US-10-440-516-6
US-10-440-516-6
US-10-440-516-7
US-10-440-516-7
US-10-440-516-7
US-10-440-516-7
US-10-440-516-7
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ALIGNMENTS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  1 MGVFNYETETTSVIPAARLFKAFIC 25
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ORGANISM: Artificial Sequence
      Best Local Similarity
Matches 25, Conserv
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               SEQ ID NO 1
LENGTH: 25
TYPE: PRT
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         Query Match
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342.204 Million cell updates/sec
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Sequence 1, Al
Sequence 34, 1
Sequence 6, Al
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Sequence 1, A
Sequence 2, A
Sequence 87,
Sequence 5, A
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Sequence 1,
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                                                                                                                                                                                                                            April 17, 2006, 10:01:54; Search time 30.5249 Seconds
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Sequence 5
Sequence 5
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Published Applications AA Main:*
1: /cgn2_6/ptodata/1/pubpaa/US07_PUBCOMB.pep:*
2: /cgn2_6/ptodata/1/pubpaa/US08_PUBCOMB.pep:*
3: /cgn2_6/ptodata/1/pubpaa/US08_PUBCOMB.pep:*
4: /cgn2_6/ptodata/1/pubpaa/US10A_PUBCOMB.pep:*
5: /cgn2_6/ptodata/1/pubpaa/US10B_PUBCOMB.pep:*
6: /cgn2_6/ptodata/1/pubpaa/US11_PUBCOMB.pep:*
                                         GenCore version 5.1.7
Copyright (c) 1993 - 2006 Biocceleration Ltd.
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US-10-440-516-1

US-10-440-516-1

US-10-809-689-87

US-09-981-0088-1

US-09-981-0088-1

US-09-981-0088-1

US-09-981-0088-1

US-10-001-245-9

US-10-001-245-9

US-10-001-245-9

US-10-001-245-9

US-10-001-245-9

US-10-001-245-9

US-10-091-245-1

US-10-199-514-1

US-10-799-514-1

US-10-799-514-2

US-10-799-514-2

US-10-799-514-2

US-10-799-514-2

US-09-847-208-39

US-09-847-208-39

US-09-847-208-31
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US-09-847-208-57
US-10-001-245-5
US-09-847-208-36
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  1867569 seqs, 417829326 residues
                                                                                                                                                                                                                                                                                                                                                                                                               1 MGVFNYETETTSVIPAARLFKAFIC 25
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         SUMMARIES
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Post-processing: Minimum Match 0%
Maximum Match 100%
Listing first 45 summaries
                                                                                                                                                                   OM protein - protein search, using sw model
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Gapop 10.0 , Gapext 0.5
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Maximum DB seq length: 2000000000
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Match Length
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1 MGVFNYETETTSVIPAARLFKAFI 24
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US-10-799-514-5
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Publication No. US20040265342A1

GENERAL INFORMATION:

APPLICANT: Eric Potter Clarkson

TITLE OP INVENTION: Methods and compositions for desensitisation

FILE REFERENCE: 5538/1010

CURRENT APPLICATION NUMBER: US/10/809,689

CURRENT FILING DATE: 1999-00-11

PRIOR APPLICATION NUMBER: ES/9800445.0

PRIOR APPLICATION NUMBER: GB/9800445.0

PRIOR APPLICATION NUMBER: GB/9800445.0

PRIOR APPLICATION NUMBER: GB/9820474.6

PRIOR PILING DATE: 1998-01-09

PRIOR PILING DATE: 1998-01-03

SROTUMARE: Patentin version 3.0

SEQ ID NO 87

LENGTH: 160

TYPE: PRI
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                                                                                                                         Query Match

93.0%; Score 120; DB 4; Length 160;
Best Local Similarity 100.0%; Pred. No. 2.4e-11;
Matches 24; Conservative 0; Mismatches 0; Indels
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                                                                                                                                                                                                                                                                                                                   US-10-40-516-2

US-10-440-516-2

Sequence 2, Application US/10440516

PUDLICATION NO. US20040044438A1

GENERAL INFORMATION:
APPLICANT: HOLIM, Jens
TITLE OF INVENTION: Allergen mutants
TITLE OF INVENTION: Allergen mutants
CURRENT FLING DATE: 2003-05-16
CURRENT FILING DATE: 2003-05-16
PRIOR APPLICATION NUMBER: US 60/381,440

PRIOR APPLICATION NUMBER: US 60/381,440

PRIOR FILING DATE: 2002-05-16

NUMBER OF SEQ ID NOS: 89

SOFTWARE: PATENTIN VEXSION 3.2

SEQ ID NO 2.
                                                                                                                                                                                                                                         1 MGVFNYETETTSVIPAARLFKAFI 24
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SEQ ID NO 1
LENGTH: 160
TYPE: PRT
ORGANISM: Betula verrucosa
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US-10-809-689-87
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US-10-799-514-5
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                                                                                                                                                                                                                          APPLICANT: Spertini, Francois
APPLICANT: Spertini, Francois
APPLICANT: Corthesy, Blaise
TITLE OF INVENTION: Allergen Peptide Fragments and Use Thereof
FILE REFERENCE: 25720-502
CURRENT FILING DATE: 2004-03-12
PRIOR APPLICATION NUMBER: 60/455,004
PRIOR APPLICATION NUMBER: 60/455,004
PRIOR PILING DATE: 2003-03-14
NUMBER OF SEQ ID NOS: 23
SOFTWARE: Patentin Ver. 2.1
SEQ ID NO 5
LENGTH: 125
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89.1%; Score 115; DB 3; Length 159;
Best Local Similarity 100.0%; Pred. No. 1.6e-10;
Matches 23; Conservative 0; Mismatches 0; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Query Match 89.1%; Score 115; DB 5; Length 125; Best Local Similarity 95.8%; Pred. No. 1.2e-10; Matches 23; Conservative 0; Mismatches 1; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           APPLICANT: Kjaerulff, Soren
APPLICANT: Roggen, Erwin
TITLE OF INVENTION: Transgenic Plants
FILE REFERENCE: 10082.200-US
CURRENT APPLICATION NUMBER: US/09/981,009B
CURRENT FILING DATE: 2002-06-14
NUMBER OF SEQ ID NOS: 5
SOFTWARE: Patentin version 3.1
SEQ ID NO 1
LENGTH: 159
1 MGVFNYETETTSVIPAARLFKAFI 24
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ; Sequence 1, Application US/09981009B
; Publication No. US20030041354A1
; GENERAL INFORMATION:
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; Sequence 34, Application US/09847208
; Publication No. US20030082190A1
; GENERAL INFORMATION:
                                                                                                                                                  ; Sequence 5, Application US/10799514; Publication No. US20040241178A1; GENERAL INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ORGANISM: Artificial Sequence
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1: /SIDS5/ptodata/1/pubpaa/USO8 NEW PUB.pep:*

2: /SIDS5/ptodata/1/pubpaa/USO8 NEW PUB.pep:*

3: /SIDS5/ptodata/1/pubpaa/USO7 NEW PUB.pep:*

4: /SIDS5/ptodata/1/pubpaa/PCT NEW PUB.pep:*

5: /SIDS5/ptodata/1/pubpaa/USO1 NEW PUB.pep:*

6: /SIDS5/ptodata/1/pubpaa/USO1 NEW PUB.pep:*

7: /SIDS5/ptodata/1/pubpaa/USO1 NEW PUB.pep:*

8: /SIDS5/ptodata/1/pubpaa/USO1 NEW PUB.pep:*
GenCore version 5.1.7
Copyright (c) 1993 - 2006 Biocceleration Ltd
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US-11-102-883-18

US-11-102-883-26

US-11-102-883-26

US-10-498-026-86

US-10-498-026-86

US-10-498-026-86

US-10-102-883-30

US-11-102-883-30

US-11-102-883-30

US-11-107-894-15

US-11-17-894-16

US-11-17-894-16

US-11-17-894-10

US-11-154-281-1

US-11-154-281-1

US-11-154-281-1

US-11-154-281-1

US-11-154-281-1

US-11-17-894-10

US-11-188-281-10

US-11-188-281-10

US-11-188-281-10
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129
1 MGVFNYETETTSVIPAARLFKAFIC 25
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Maximum Match 100%
Listing first 45 summaries
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Gapop 10.0 , Gapext 0.5
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Maximum DB seq length: 200000000
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26 42 32.6 505 7 US-11-188-298-16547 Sequence 16547, A 2 32.6 511 7 US-11-188-298-15305 Sequence 15305, A 29 41 31.8 213 7 US-11-188-298-1529 Sequence 15305, A 29 41 31.8 314 7 US-11-188-298-4152 Sequence 2013, App 31 41 31.8 314 7 US-11-188-298-4152 Sequence 4152, App 32 41 31.8 318 7 US-11-087-099-5423 Sequence 4152, App 33 41 31.8 572 7 US-11-096-568A-29686 Sequence 29686, A 31 41 31.8 572 7 US-11-096-568A-29686 Sequence 29686, App 41 31.8 695 7 US-11-096-568A-29686 Sequence 29686, App 41 31.8 695 7 US-11-096-568A-29686 Sequence 29686, App 41 31.8 695 7 US-11-096-568A-29686 Sequence 29686, App 41 31.8 10.43 7 US-11-096-568A-29686 Sequence 29686, App 40 31.0 251 7 US-11-188-298-409 Sequence 29686, App 40 31.0 251 7 US-11-188-298-409 Sequence 29686, App 40 31.0 251 7 US-11-186-298-409 Sequence 29686, App 40 31.0 251 7 US-11-096-568A-18470 Sequence 18470, App 41 40 31.0 351 7 US-11-096-568A-18469 Sequence 18469, App 42 40 31.0 351 7 US-11-096-568A-18469 Sequence 18469, App 43 40 31.0 1018 7 US-11-096-568A-18468 Sequence 5592, App 44 31.0 1018 7 US-11-096-568A-18468 Sequence 5592, App 5592 App 5592
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ALIGNMENTS

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RESULT 1

US-10-498-026-81

i Sequence 81, Application US/10498026

i Publication No. US20060024334A1

i GENERAL INFORMATION:

TITLE OF INVENTION: IMMUNOTHERAPEUTIC METHODS AND SYSTEMS

TITLE OF INVENTION: IMMUNOTHERAPEUTIC METHODS AND SYSTEMS

TITLE OF INVENTION: IMMUNOTHERAPEUTIC METHODS AND SYSTEMS

TITLE OF INVENTION: 100 OGW

CURRENT FILING DATE: 2004-06-04

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| MOVENITETITSVILPARLFKAFI 24

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US-11-102-883-18
; Sequence 18, Application US/11102883
; Publication No. US20050281816A1
; GENERAL INFORMATION:

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JOHNSTAIL IN CACAMATION:

JAPPLICANT: Lamping, Norbert
APPLICANT: Crameri, Reto
APPLICANT: Crameri, Reto
APPLICANT: Crameri, Reto
APPLICANT: Transporter Molecules (MAT Molecules)
TITLE OF INVENTION: Modular Antigen Transporter Molecules (MAT Molecules)
TITLE OF INVENTION: Modularing Immune Reactions, Associated Constructs, Methods an TITLE OF INVENTION: Uses Thereof
FILE REFERENCE: 03100234pa
CURRENT APPLICATION NUMBER: US/11/102,883
CURRENT APPLICATION NUMBER: EP02022774.0
PRIOR FILING DATE: 2002-10-11
PRIOR FILING DATE: 2003-10-01
PRIOR FILING DATE: 2003-10-09
NUMBER OF SEQ ID NOS: 44
SOFTWARE: Patentin version 3.2

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                                                        ; ORGANISM: Human immunodeficiency virus + Homo sapiens + Betula verrucosa
US-11-102-883-6
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; Sequence 87, Application US/10498026
; Publication No. US20060024334A1
; APPLICANT: CIRCASIA LIMITED
; TITLE OF INVENTION: IMMUNOTHERAPEUTIC METHODS AND SYSTEMS;
; PILE REFERENCE: N.87430 WO GCW
; CURRENT APPLICATION NUMBER: US/10/498,026
; CURRENT FILING DATE: 2004-06-04
; NUMBER OF SEQ ID NOS: 118
; SOFTWARE: Patentin version 3.1
; SEQ ID NO 87
; LENGTH: 44
                                                                                                                                                         Length 300,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            80.6%; Score 104; DB 6; Length 44; 91.3%; Pred. No. 4.7e-11;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Query Match
Best Local Similarity 78.3%; Pred. No. 6.8e-10;
Matches 18; Conservative 3; Mismatches 2; Indels
                                                                                                                                                                                                                        Indels
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PUDLication No. US20060024334A1
GENERAL INFORMATION:
APPLICANT: CIRCASSIA LIMITED
TITLE OF INVENTION: IMMUNOTHERAPEUTIC METHODS AND SYSTEMS
FILE REFERENCE: N. 187430 WO GCW
CURRENT APPLICATION NUMBER: US/10/498,026
CURRENT FILING DATE: 2004-06-04
NUMBER OF SEQ ID NOS: 118
SOFTWARE: Patentin version 3.1
SEQ ID NO 86
                                                                                                                                                  Query Match 93.0%; Score 120; DB 7; I
Best Local Similarity 100.0%; Pred. No. 8.1e-13;
Matches 24; Conservative 0; Mismatches 0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              0; Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ; OTHER INFORMATION: Xaa = any amino acid US-10-498-026-86
                                                                                                                                                                                                                                                                                                                            1 MGVFNYETETTSVIPAARLFKAFI 24
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  1 GVFNYEAETPSVIPAARLFKAFI 23
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Best Local Similarity
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US-10-498-026-86
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US-10-498-026-87
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LENGTH: 300
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| US-11-102-883-26 |
| US-11-102-883-26 |
| Sequence 26, Application US/11102883 |
| Publication No. US20050281816A1 |
| GENERAL INFORMATION: |
| APPLICANT: Lamping, Norbert |
| APPLICANT: Daigle, Isabelle |
| TITLE OF INVENTION: Modular Antigen Transporter Molecules (MAT Molecules) for |
| TITLE OF INVENTION: Modularing Immune Reactions, Associated Constructs, Methods and |
| TITLE OF INVENTION: USES Thereof |
| TITLE OF INVENTION: USES Thereof |
| TITLE OF INVENTION: USES Thereof |
| TITLE OF INVENTION: UNBER: US.11/102,883 |
| CURRENT APPLICATION NUMBER: EP02022774.0 |
| PRIOR PAPLICATION NUMBER: PT/FP2003/011190 |
| FRIOR PELING DATE: 2003-10-11 |
| PRIOR PAPLING DATE: 2003-10-10 |
| MyMBER OF SEQ ID NOS: 44 |
| SOFTWARE: Patentin version 3.2 |
| WONTH APPLICATION NUMBER: PATABLE N
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; Sequence 6, Application US/11102883
; Publication No. US20050281816A1
; GENERAL INFORMATION:
    APPLICANT: Lamping, Norbert
; APPLICANT: Lamping, Norbert
; APPLICANT: Lamping, Norbert
; APPLICANT: Daigle, Isabella
; TITLE OF INVENTION: Modular ing Immune Reactions, Associated Constructs, Methods and
; TITLE OF INVENTION: Wodular ing Immune Reactions, Associated Constructs, Methods and
; TITLE OF INVENTION: Wodular ing Immune Reactions, Associated Constructs, Methods and
; TITLE OF INVENTION: WOBER: US/11/102,883
; CURRENT APPLICATION NUMBER: US/11/102,883
; CURRENT APPLICATION NUMBER: PRO202774.0
; PRIOR PILING DATE: 2002-10-11
; PRIOR PILING DATE: 2003-10-11
; RIOR FILING DATE: 2003-10-09
; NUMBER OF SEQ ID NOS: 44
; SOFTWARE: PatentIn version 3.2
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                                                                                                                                                                                          Length 172;
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                                                                                                                                                                                      Query Match 93.0%; Score 120; DB 7; L
Best Local Similarity 100.0%; Pred. No. 4.2e-13;
Matches 24; Conservative 0; Mismatches 0;
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                                                                                                                                                                                                                                                                                                                                                             13 MGVFNYETETTSVIPAARLFKAFI 36
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                                                        TYPE: PRT
ORGANISM: Betula verrucosa
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ; ORGANISM: tat-Ii-bet v 1
US-11-102-883-26
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US-11-102-883-6
SEQ ID NO 18
LENGTH: 172
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Aay25649 E Abg66970 Abg66970 Add14386 Add14386 Add14364 Add14364 Add14364 Add18723 Add18723 Add18723 Add18723 Add1898 Add1898

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Scoring table:

Searched:

Minimum DB & Maximum DB &

Database

Perfect score:

Sequence:

OM protein

Run on

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The present invention relates to a new composition containing antiallergic peptides useful in the treatment of allergic diseases. The present peptide is an non-allergenic Bet v 1-derived synthetic peptide, which does not contain Bet v 1-specific T-cell epitopes
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                                                                                    ADC34898
ADO14386
ADO14386
ADS52093
ADS52093
ADS7312
ADM57312
ADM87312
ADM872130
ADM8721790
ADM8721790
ADM5731790
ADM5731
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Focke M, Mahler V,
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ABB83631;
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  Birch all
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Birch
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                           GenCore version 5.1.7
Copyright (c) 1993 - 2006 Biocceleration Ltd.
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                                                                                                                                                                                                                                                                                                                   LFPKVAPQAISSVENIEGNGGPGTIKKISFC
                                                                                                                                                                                                                                                                                                                                                                                                                                  2443163 segs, 439378781 residues
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Maximum Match 100%
Listing first 45 summaries
                                                                                                                         protein search, using sw model
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ABG67101
ABG67105
ABG66965
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geneseqp2001s:*
geneseqp2002s:*
geneseqp2003as:*
geneseqp2003bs:*
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geneseqp1990s:*
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geneseqp2005s:*
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seq length: 200000000
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161
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Indels

100.0%; Score 161; DB 5; 100.0%; Pred. No. 2.5e-16; iive 0; Mismatches 0;

1 LFPKVAPQAISSVENIEGNGGPGTIKKISFC 31 LEPKVAPQAISSVENIEGNGGPGTIKKISFC 31

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Score

Result No.

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Conservative

Query Match Best Local Similarity Matches 31; Conserv

50 amino acids

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Valenta

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Oleales; Pinales; mutant;

RESULT 2

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structure as the naturally occurring allergen. The substituted amino acid does not occur in the same position of any known homologous protein within the taxonomic order of the natural allergen. Specific IgB binding to the mutant is reduced compared to the naturally occurring allergen. The recombinant allergen is used as a vaccine to treat, prevent or alleriate allergic reactions. The present sequence represents the wild type Bet v 1, which can have the following mutations: Thr10Pro, Asp25Gly, Asn28Thr + Lys32Gln, Glu45Ser, Asn47Ser, Lys55Asn, Glu60Ser, Thr77Ala and Pro108Gly. (Updated on 17-OCT-2003 to standardise OS field)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Allergen; protein coordinate data; vaccine; antiallergic; immunogenicity; detergent; personal care composition; cosmetic.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       The present invention describes a recombinant mutated allergen, with a surface exposed substituted amino acid on a B-cell epitope. The recombinant, non-natural, mutated allergen has at least one surface-exposed conserved amino acid of a B-cell epitope substituted by another amino acid, and essentially the same alpha-carbon backbone tertiary
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     New mutated allergen with lower specific affinity to IgE, useful for
                                             Bet v 1; Ves v 5; pollen allergen; Fagales; Oleales; Finales; m
Hymenoptera; IgE; immunoglobulin E; vaccine; allergic reaction.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          94.4%; Score 152; DB 2; Length 159; 100.0%; Pred. No. 3.5e-14; ive 0; Mismatches 0; Indels
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Wild type birch Bet v 1 protein seguence.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Example 1; Fig 3; 77pp; English.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   treatment of allergic reactions.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ABM00015 standard; protein; 159
                                                                                                                                                                                                                                                                     99WO-DK000136.
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                                                                                                                                                                                                                                                                                                                                                                   (ALKA-) ALK-ABELLO AS
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N-PSDB; AAZ25684.
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Best Local Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Sequence 159 AA;
                                                                                                                       Betula pendula.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          WO200183559-A2
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                                                                                                                                                                                                                                                                     16-MAR-1999;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            The invention relates to novel compositions including contiguous coverlapping peptide fragments which together form an entire amino acid sequence of an allergen, where the fragments are capable of inducing a reall response in patients who are hypersensitive to the allergen. The cell response in patients who are hypersensitive to the allergen. The contiguous overlapping peptide fragments further result in lower levels of figs stimulation activity. The lower levels of figs stimulation activity are zero or weak. The contiguous overlapping peptide fragments further result in a decrease in T-cell response upon subsequent exposure to the allergen, thus, modulating an immune response in the patients, who are hypersensitive to the allergen a immune response in the patients, who are hypersensitive to the allergen. A composition of the invention has antiallergic activity, and may have a use in gene therapy, and as a contine. The composition and methods are useful for preventing or treating igs-mediated allergies. The present sequence represents a fragment of an allergen of the invention, birch pollen Bet v 1.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               New compositions including contiguous overlapping peptide fragments that form an entire amino acid sequence of an allergen (e.g. bee venom or birch pollen allergen), useful for preventing or treating IgE-mediated
                                                                                                                                                                                                                                                                     birch pollen; allergen; Bet v 1; T-cell response; IgE; immunoglobulin E; immune response; antiallergic; gene therapy; vaccine.
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                                                                                                                                                                                                                     Birch pollen allergen Bet v 1 fragment SEQ ID NO:5.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          1 LFPKVAPQAISSVENIEGNGGPGTIKKISF 30
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                                                                         ADR87216 standard; protein; 125 AA.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            14-MAR-2003; 2003US-0455004P.
12-MAR-2004; 2004US-00799514.
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                                                                                                                                                                       (first entry)
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30-APR-2001; 2001WO-DK000293

08-NOV-2001.

(revised)
(first entry)

17-OCT-2003 05-JAN-2000

AAY45216 ID AAY4 XX AC AAY4 XX DT 17-C DT 05-J

RESULT 3

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Query Match Best Loc Matches

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GenCore version 5.1.7
Copyright (c) 1993 - 2006 Biocceleration Ltd.
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Run on:

April 17, 2006, 09:43:45; Search time 15.9282 Seconds (without alignments) 187.261 Million cell updates/sec

US-10-026-911-2 161 1 LFPKVAPQAISSVENIEGNGGPGTIKKISFC 31 Perfect score: Sequence:

BLOSUM62 Gapop 10.0 , Gapext 0.5 Scoring table:

283416 segs, 96216763 residues Searched: 283416 Total number of hits satisfying chosen parameters:

Minimum DB seq length: 0 Maximum DB seq length: 200000000

Post-processing: Minimum Match 0% Maximum Match 100% Listing first 45 summaries

1: pirl:* 2: pir2:* 3: pir3:* 4: pir4:* PIR 80:* Database

Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

SUMMARIES

Description		or pollen	ö	or pollen		or pol	ជ្ជ	ö	or pollen	pollen	bollen	Sc2 prot	allergen		aller	Sc1 prot	Sc3	u	protein -	major allergen Mal	genesis-re	major allergen Mal	allergen		major allergen Mal	m	g	l prot	pathogenesis-relat.
ID	E55699	G55699	D55699	805376	F55699	A57427	H55699	A55699	B55699	C55699	I55699	847251	830055	830053	S30054	S47250	S47249	S30056	851119	JC4276	SNFB1	T17007	T17005	T17004	T17006	-	2051	2051	S12568
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Length	160	160	160	160	160	160	160	160	160	160	160	159	160	160	160	160	160	160	153	159	156	160	160	159	160	155	158	158	158
% Query Match	94.4	4	94.4	94.4	88.8	88.8	88.8	88.8	88.8	88.2	88.2	85.1	83.2	83.2	83.2	82.6	80.1	78.9		73.9	71.4	68.3	68.3	67.1	65.8	64.3	63.7	61.8	60.2
Score	152	152	152	152	143	143	143	143	143	142	142	137	134	134	134	133	129	127	119	119	115	110	110	108	106	103.5		99.5	
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major pollen allergen Bet v 1j - European white birch C; Species: Betula pendula (European white birch) C; Species: Betula pendula (European white birch) C; Species: Betula pendula (European white birch) C; Date: 01-Dec-1995 #sequence_revision 01-Dec-1995 #text_change 09-Jul-2004 C; Accession: G55699; S41902 A; Ferreira, F.; Engel, E.; Hoffmann-Sommergruber, K.; Scheiner, Ch. M. J. Biol. Chem. 270, 2607-2613, 1995 A; Engel, E.; Hoffmann-Sommergruber, K.; Scheiner, J. Biol. Chem. 270, 2607-2613, 1995 A; Fitle: Isoforms of Bet v 1, the major birch pollen allergen, analyzed by liquid chrom A; Engels Ch. MUID: 95155322; PMID: 7852325

A, Accession: G55699 A, Molecule type: mRNA A, Residues: 1-160 < SWO>

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pathogenesis-relat	parnogenesis-relar	pathogenesis-relat	pathogenesis-relat	pathogenesis-relat	pathogenesis-relat	disease resistance	pathogenesis-relat	stress response ge	pathogenesis-relat	major pollen aller	pathogenesis-relat	major allergen Api	cytokinin-induced	TSI-1 protein - to	pathogenesis-relat
552664	S47140	SNFB2	T09659	S42650	T06527	T06768	S42649	T09526	S04553	A45786	804552	S63984	T10059	T07403	T14918
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155	158	155	157	158	158	159	157	157	155	51	155	154	140	178	155
59.9	59.9	58.7	56.2	55.6	55.0	55.0	54.3	53.1	49.7	49.1	49.1	48.8	46.6	46.0	44.7
96.5	96.5	94.5	90.5	89.5	88.5	88.5	87.5	85.5	80	79	79	78.5	75	74	72
30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45

ALIGNMENTS

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major pollen allergen Bet v 1f/i - European white birch
C;Species: Betula pendula (European white birch)
C;Date: 0.1-Dec-1995 #sequence_revision 01-Dec-1995 #text_change 09-Jul-2004
C;Accession: E55699; 841905; $41900
R;Swoboda, I.; Jilek, A.; Ferreira, F.; Engel, E.; Hoffmann-Sommergruber, K.; Scheiner,
                                                                                                                                                                                                                                  C.I., M., Steference and the major birch pollen allergen, analyzed by liquid chrom A, Title: Isoforms of Bet v 1, the major birch pollen allergen, analyzed by liquid chrom A, Reference number: A55699; MUID:95155322; PMID:7852325
A,Accession: E55699
A,Molecule type: mRNA
A,Residues: 1-160 c8NO-
A,Cross-references: UNIPROT:P43179; UNIPARC:UP1000016DCF9; EMBL:X77268; NID:9452735; PI
A,Note: the source is designated as Betula vertucosa
R;Swoboda, I.; Jilek, A.; Ferreira, F.; Vicente, O.; Hoffman-Sommergruber, K.; Heberlesubultted to the EMBL Data Library, January 1994
A;Reference number: S41896
A;Accession: S41805
A;Status: preliminary
A;Molecule type: mRNA
A;Residues: 1-160 c8N2>
A;Cross-references: UNIPARC:UP1000016DCF9; EMBL:X77274; NID:9452745; PIDN:CAA54490.1; P
A;Note: the source is designated as Betula verrucosa
C;Superfamily: pathogenesis-related protein
C;Keywords: pollen
F;2-160/Product: major pollen allergen Bet v 1f/i #status experimental cMAT>
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100.0%; Pred. No. 1.5e-14;
tive 0; Mismatches 0;
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Best Local Similarity 100.0
Matches 30; Conservative
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J. Biol. Chem. 270, 2607-2613, 1995
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C; Species: Betula pendula (European white birch)
C; Species: 31-Mar-1990 #sequence revision 31-Mar-1990 #text_change 09-Jul-2004
C; Accession: S05376; JC4834; B52288
R; Breiteneder, H.; Pettenburger, K.; Bito, A.; Valenta, R.; Kraft, D.; Rumpold, H.; Sche EMBO J. 8, 1935-1938, 1989
A; Title: The gene coding for the major birch pollen allergen BetvI, is highly homologous A; Molecule type: mRNA
A; Molecule type: mRNA
A; Molecule type: mRNA
A; Molecule type: mRNA
A; Residues: 1-160 *RBE>
A; Cross-references: UNIPROT:P15494; UNIPARC:UPI000000314; EMBL:X15877; NID:917937; PIDN
R; Kund, A.J.; Susani, M.; Lindemann, A.; Machius, M.; Visser, A.J.W.G.; Scheiner, O.; K
Biochem: Biophys: Res. Commun. 223, 187-192, 1996
A; Title: Evidence for an alpha helical T cell epitope in the C-terminus of the main birc
A; Recession: JC4834; MUID:96254050; PMID:8660368
A; Accession: JC4834
A; Molecule type: mRNA
A; Molecule type: mRN
A,Cross-references: UNIPROT:P43183; UNIPARC:UPI000016DCFB; EMBL:X77271; NID:g452739; PIL A;Note: the source is designated as Betula verrucosa (S.Superfamily: pathogenesis-related protein (S.Superfamily: pollen (S.Keywords: pollen (S.Yeywords: pollen allergen Bet v 1) #status experimental <MAT>
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J. File: Isoforms of Bet v 1, the major birch pollen allergen, analyzed by liquid chroma A; Title: Isoforms of Bet v 1, the major birch pollen allergen, analyzed by liquid chroma A; Preference number: A55699; MUID: 95155322; PMID: 7852325
A; Molecule type: mRNA
A; Residues: 1-160 csW0>
A; Residues: 1-160 csW0>
A; Note: the source is designated as Betula verrucosa
A; Note: the source is designated as Betula verrucosa
C; Superfamily: pathogenesis-related protein
C; Superfamily: pollen
F; 2-160/Product: major pollen allergen Bet v 1e #status experimental <MAT>
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R;Ipsen, H.; Hansen, O.C.
Mol. Immunol. 28, 1279-1288, 1991
A;Title: The NH2-terminal amino acid sequence of the immunochemically partial identical s) Car b I and oak (Quercus alba) Que a I pollens.
B) Car b I and oak (Quercus alba) Que a I pollens.
A;Reference number: A53288; MUID:92072607; PMID:1961201
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R;Swoboda, I.; Jilek, A.; Ferreira, F.; Engel, E.; Hoffmann-Sommergruber, K.; Scheiner,
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C;Species: Betula pendula (European white birch)
C;Date: 01-Dec-1995 #sequence_revision 01-Dec-1995 #text_change 09-Jul-2004
C;Accession: D55699; 841899
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100.0%; Pred. No. 1.5e-14;
iive 0; Mismatches 0;
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J. Biol. Chem. 270, 2607-2613, 1995
A;Title: Isoforms of Bet v 1, the major birch pollen allergen, analyzed by liquid chrom. A;Title: Isoforms of Bet v 1, the major birch pollen allergen, analyzed by liquid chrom. A;Reference number: A55699; MUID:95155322; PMID:7852325
A;Reference mulpor: A55699
A;Residues: L-160 < SWO-A;Residues: L-160 < Resignated as Betula verrucosa
C;Superfamily: pathogenesis-related protein
C;Reywords: pollen allergen Bet v 1g #status experimental < MAT>
F;2-160/Product: major pollen allergen Bet v 1g #status absent
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A; Residues: 1-160 < SMO>
A; Cross-references: UNIPROT: P43186; UNIPARC: UPI000016DCFE; GB: X81972; NID: GB07868; PIDN
B; Engel, E.; Kraft, D.; Scheiner, O.; Breitenbach, M.; Ferreira, F.
Submitted to the EMBL Data Library, October 1994
A; Description: Isoforms of BETVI, the major birch pollen allergen, analyzed by liquid ci
A; Reference number: 849450
A; Accession: S49450
A; Status: preliminary
A; Molecule type: mRNA
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A;Accession: A57427
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C;Species: Betula pendula (European white birch)
C;Date: 0.1-Dec-1995 #sequence_revision 01-Dec-1995 #text_change 09-Jul-2004
C;Accession: A57427; 849450
R;Swoboda, I.; Jilek, A.; Ferreira, F.; Engel, E.; Hoffmann-Sommergruber, K.; Scheiner,
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C;Date: 01-Dec-1995 #sequence_revision 01-Dec-1995 #text_change 09-Jul-2004
C;Accession: F55699; S41896
R;Swoboda, I.; Jilek, A.; Ferreira, F.; Engel, E.; Hoffmann-Sommergruber, K.; Scheiner,
                                                                                                                                                                                                                                                                                    dependent manner.
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A;Status: preliminary
A;Molacule type: protein
A;Residues: 2-39, XX', 42-44 <IPS>
A;Cross-references: UNIPARC:UP10000177F58; PID:g239734; PIDN:AAB20452.
                                                                                                                                                           A Experimental source: pollen
A,Note: sequence extracted from NCBI backbone (NCBIP:68408)
A,Note: the source is designated as Betula verrucosa
C,Comment: This protein induces IgE synthesis by B cells in a T cell
C,Superfamily: pathogenesis-related protein
C,Steywords: pollen
P;2-160/Product: major pollen allergen Bet v l #status experimental
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TISSUE=POLISE;

X MEDILINE=99437514; PubMed=10509815; DOI=10.1016/S0161-5890(99)00078-4;

XA Fried1-Hajek R., Radauer C., Riordain G., Hoffmann-Sommergruber K.,

A Fried2-Hajek R., Scheiner O., Breiteneder H.;

RT Leber1 K., Scheiner O., Breiteneder H.;

RT Get the protein derived from Austrian birch pollen.";

RD Mol. Immunol. 36:639-645(1999)

BR HSSP; N196913; CAA07328.1; -; mRNA.

BR HSSP; N19694; BEF.

BR HSSP; N296049; Bet V.I.

BR SMR; O9SCH7; 2-119.

BR PRINTS; PR00634; BETALLERGEN.

BR PRINTS; PR00634; BETALLERGEN.

BR PRINTS; PR00631; Bet V.I; 1.

BR PRINTS; PR00631; BET V.I; 1.

BR PRINTS; PR00631; BET V.I; 1.

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Betula verrucosa (White birch) (Betula pendula).
Bukaryota; Viridiplantae; Streptophyta; Embryophyta; Tracheophyta; Spermatophyta; Magnoliophyta; eudicotyledons; core eudicots; rosids; eurosids I; Fagales; Betulaceae; Betula.
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Spermatophyta; Magnoliophyta; edicotyledons; core eudicots; rosids;
eurosids 1; Fagales; Betulaceae; Betula.
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Pred. No. 5.7e-14;
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01-MAY-2000 (TrEMBLrel. 13, Last sequence update)
01-UNY-2003 (TrEMBLrel. 24, Last annotation update)
Pollen allergen Betv1, isoform at14.
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Q9SCH7;
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Copyright (c) 1993 - 2006 Biocceleration Ltd.
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Q9SYW1
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Gapop 10.0 , Gapext 0.5
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2: uniprot_trembl:*
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seq length: 200000000
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Breiteneder H., Pettenburger K., Bito A., Valenta R., Kraft D., Rumpold H., Scheiner O., Breitenbach M.;
"The gene coding for the major birch pollen allergen Betv1, is highly homologous to a pea disease resistance response gene.";
EMBO J. 8:1935-1938 (1989).
                                               MEDLINE=99437514; PubMed=10509815; DOI=10.1016/S0161-5890(99)00078-4;
                                                      Friedl-Hajek R., Radauer C., Riordain G., Hoffmann-Sommergruber K., Leberl K., Scheiner O., Breiteneder H.;
"New Bet v 1 isoforms including a naturally occurring truncated form of the protein derived from Austrian birch pollen.";
MMO1. Immunol. 35:639-645(1999).
EMBL, AJ006905; CAA07320.1; -; mRNA.
                                                                                                                                                                                                                                                   Gaps
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MEDLINE=9515322; PubMed=7852325; DOI=10.1074/jbc.270.6.2607;
Swoboda I., Jilek A., Ferreira F., Engel E., Hoffman-Sommergruber K., Schainer O., Kraft D., Breiteneder H., Pittenauer E., Schmid E., Vicente O., Heberle-Bors E., Ahorn H., Breitenbach M.;
IISGÓRMS OG Bet V. I, the major birch pollen allergen, analyzed by liquid chromatography, mass spectrometry, and cDNA cloning.";
J. Biol. Chem. 270:2607-2613(1995).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         MEDLINE-91317572; PubMed=2101127;
MEDLINE-91317572; PubMed=2101127;
Elasayed S., Vik H.;
"Purification and N-terminal amino acid sequence of two birch pollen
isoallergens (Bet v I and Bet v II).";
Isoallergens (Albert v I and Bet v II).";
                                                                                                                                                                                                                                                                                                                                                                                                                                                     Eukaryota; Viridiplantae; Streptophyta; Embryophyta; Tracheophyta; Spermatophyta; Magnoliophyta; eudicotyledons; core eudicotyledons; rosids; eurosids I; Fagales; Betulaceae; Betula.
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                                                                                                                                                                                                                             Length 120;
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                                                                                                                                                     InterPro; IPR000916; Bet v I.
Pfam; PF00407; Bet v I; I.
PRINTS; PR00634; BETALERGEN.
PRODOM; PD000531; Bet v I; 1.
SEQUENCE 120 AA; 13055 MW; 95EB4309C4CB4CBF CRC64;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   NUCLEOTIDE SEQUENCE, AND PROTEIN SEQUENCE OF 1-34.
                                                                                                                                                                                                                          94.4%; Score 152; DB 2; L
100.0%; Pred. No. 5.7e-14;
iive 0; Mismatches 0;
                                                                                                                                                                                                                                                                                                                                                                                                                                           Betula verrucoga (White birch) (Betula pendula)
                                                                                                                                                                                                                                                                                                                                                         DESTAIN BETUE STANDARD; PRT; 159 AA. 15494; Q96369; C1-ARR-1990 (Rel. 14, Last sequence update) 10-MAY-2005 (Rel. 47, Last annotation update) 10-MAY-2005 (Rel. 47, Last annotation update) Major pollen allergen Bet v 1-A (Bet v 1-A). Name=BETVIA;
                                                                                                                                                                                                                                                                           1 LFPKVAPQAISSVENIEGNGGPGTIKKISF 30
                                                                                                                                                                                                                                                                                          Local Similarity 100.
les 30; Conservative
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                       NUCLEOTIDE SEQUENCE
                                                                                                                                            SMR; Q9SCI1; 2-119.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             WCBI_TaxID=3505;
NCBI_TaxID=3505;
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                                                                                                                                                                   This Swiss-Prot entry is copyright. It is produced through a collaboration between the Swiss Institute of Bioinformatics and the EMED outstation the European Bioinformatics Institute. There are no restrictions on its use as long as its content is in no way modified and this statement is not
                                                                                                                                                                                                                                                                                                                      cause of type
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Gaps
           MEDILINE=97102431; PubMed=8946858; Gajhede M., Osmark P., Poulsen F.M., Ipsen H., Larsen J.N., Van Neerven R.J.J., Schou C., Loewenstein H., Spangfort M.D.; Van Neerven R.J.J., Schou C., Loewenstein H., Spangfort M.D.; Nat. Struct. Biol. 3:1040-1045(1996).

-! SUBCELJULAR LOCATION: Cytoplasmic.
-! ALLERGEN: Causes an allergic reaction in human. Is a cause contained to a language of the Betvi Family.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             94.4%; Score 152; DB 1; Length 159; 100.0%; Pred. No. 7.7e-14; ive 0; Mismatches 0; Indels
CRYSTALLOGRAPHY (2.0 ANGSTROMS), AND STRUCTURE BY NMR
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     17440 MW; 96E181194BBA83E6 CRC64;
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EMBL; Z80098; CAB02153.1; -; mRNA.
EMBL; Z80104; CAB02154.1; -; mRNA.
EMBL; Z80104; CAB02159.1; -; mRNA.
PIR; S05376; S05376.
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16727, A 16727, A 1, Appli Appli Appli Appli

9671, AF

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Sequence 23, Appl
Sequence 11, Appl
Sequence 11, Appl
Sequence 17, Appl
Sequence 20, Appl
Sequence 2, Appli
Patent No. 5312912
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104.645 Million cell updates/sec
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Sequence 2, M
Sequence 6, M
Sequence 4, M
Sequence 6, M
Sequence 784, M
Sequence 8, M
Sequence 8, M
Sequence 8, M
Sequence 8, M
Sequence 9, M
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Sequence 2, 7
Patent No. 531
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Description
                                                                                                 April 17, 2006, 09:44:15 ; Search time 24.4917 Seconds
              GenCore version 5.1.7
Copyright (c) 1993 - 2006 Biocceleration Ltd.
                                                                                                                                                                                                                                                                                                                                                                                                                                /cgn2_6/ptodata/1/iaa/5_COMB.pep:*
/cgn2_6/ptodata/1/iaa/6_COMB.pep:*
/cgn2_6/ptodata/1/iaa/H_COMB.pep:*
/cgn2_6/ptodata/1/iaa/PcTuS_COMB.pep:*
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US-07-847-010-3

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US-07-847-010-14

US-07-847-010-20

US-08-964-722-2

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US-08-954-722-2

US-09-945-376-2

US-09-945-376-2

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US-09-945-376-2

US-09-945-376-2

US-09-945-376-2

US-09-945-376-4

US-09-945-376-4

US-08-911-434-4

US-08-911-434-4

US-09-329-418-8

US-09-531-914-8

US-09-531-914-8

US-09-531-914-8

US-09-531-914-8

US-09-531-914-8

US-09-531-914-8

US-09-531-914-8

US-09-329-418-3

US-09-329-418-3
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1 LFPKVAPQAISSVENIEGNGGPGTIKKISFC 31
                                                                                                                                                                                                                                                                                   Total number of hits satisfying chosen parameters:
                                                                                                                                                                                                                                                          572060 seqs, 82675679 residues
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                                                                                                                                                                                                                                                                                                                                                           Post-processing: Minimum Match 0%
Maximum Match 100%
Listing first 45 summaries
                                                                       OM protein - protein search, using sw model
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Maximum DB seq length: 2000000000
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Match Length
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139
134
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Sequence 5 Sequence 3 Sequence 3

Sequence 5 Sequence 9 Sequence 1

US-09-531-914-9 US-09-949-016-10660

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Sequence 35, Appl
Sequence 62, Appl
Sequence 37925, A
Sequence 53142, A
  Sequence Seq
                                                                                                                                                                                                                                                                                         Sequence 3
Sequence 3
Sequence 6
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                OFFIGATIONS SYSTEM:
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/07/847,010
FILING DATE: 01-010-1992
CLASSIFICATION: 435
ATTORNEY/AGENT INFORMATION:
NAME: Jones III, Harry C
REGISTRATION NUMBER: 6530-010
REFERENCE/DOCKET NUMBER: 6530-010
TELECOMMUNICATION:
TELEPHONE: (212) 790-9990
US-08-290-978A-5
US-08-780-869-5
US-09-673-95A-2340-7
US-09-248-796A-23427
US-09-248-796A-23427
US-09-248-796A-28075
US-09-248-796A-28075
US-09-248-796A-28075
US-09-248-796A-28075
US-09-248-796A-28075
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US-09-248-7974-8
US-09-252-911A-16727
US-08-816-552-2
US-09-242-737-4
US-09-242-737-4
US-09-949-016-9671
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TELEX: 66141 PENNIE
INFORMATION FOR SEQ ID NO: 23:
SEQUENCE CHARACTERISTICS:
LENGTH: 160 amino acids
TYPE: amino acid
    452
452
1117
1169
484
1834
1188
4113
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420
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MOLECULE TYPE: peptide
HYPOTHETICAL: NO
ORIGINAL SOURCE:
    US-07-847-010-23
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30 LLPKVAPEAVSSVENIEGNGGPGTIKKITF 59
                                                                                            Sequence 11, Application US/07847010
Patent No. 5693495
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INFORMATION FOR SEQ ID NO: 11:
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amino acid
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Query Match
Best Local Similarity 83.3*
Matches 25; Conservative
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LENGTH: 160 amino acid
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    TOPOLOGY: linear
MOLECULE TYPE: peptide
HYPOTHETICAL: NO
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ORIGINAL SOURCE:
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                                                               RESULT
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86.7%; Pred. No. 5e-13;
tive 3; Mismatches 1; Indels
                                                                                                       Length 160;
                                                                                                                                             Indels
  ; ORGANISM: birch (Betula sp.); INMEDIATE SOURCE:
; LIBRARY: POLLEN FROM ALLERGON AB, ENGELHOLM, SWEDEN US-07-847-010-2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              SITEE: New York
STATE: New York
STATE: New York
COUNTRY: U.S.A.
ZIP: 10036-2711
COMPUTER READABLE FORM:
MEDTUM TYPE: Floppy disk
COMPUTER: Floppy disk
COMPUTER: PatentIn Release #1.0, Version #1.25
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/07/847,010
FILING DATE: 01-UN-1992
CLASSIFICATION: 021-UN-1992
CLASSIFICATION: 021-UN-1992
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        APPLICANT: Rumpold, Helmuc
APPLICANT: Scheiner, Otto
APPLICANT: Ebner, Christof
APPLICANT: Ferreira, Fatima
TITLE OF INVENTION: Allergens of Alder Pollen and
TITLE OF INVENTION: Applications Thereof
                                                                                                  Query Match
94.4%; Score 152; DB 1; I
Best Local Similarity 100.0%; Pred. No. 5.6e-15;
Matches 30; Conservative 0; Mismatches 0;
                                                                                                                                                                                                                                                                                                                                                                                      Breiteneder, Heimo
Reikerstorfer, Arnold
Valenta, Rudolf
Hoffmann - Sommergruber, Karin
Breitenbach, Michael
Kraft, Dietrich
Rumpold, Helmut
                                                                                                                                                                                     1 LFPKVAPQAISSVENIEGNGGPGTIKKISF 30
                                                                                                                                                                                                            30 LFPKVAPQAISSVENIEGNGGPGTIKKISF 59
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1155 Avenue of the Americas
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  CLASSIFICATION: 435
ATTONERY/GENT INFORMATION:
NAME: Jones III, Harry C
REGISTRATION NUMBER: 20,280
REFERENCE/DOCKET NUMBER: 6530-010
TELECOMMUNICATION INFORMATION:
TELECHONE: (212) 790-9090
                                                                                                                                                                                                                                                                                                                           Sequence 3, Application US/07847010 Patent No. 5693495
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              TYPE: amino acid
TOPOLOGY: linear
MOLECULE TYPE: peptide
HYPOTHETICAL: NO
ORIGINAL SOURCE:
ORGANISM: Alder (Alnus sp.)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       TELEFAN: (212) 869-9741/8864
TELEX: 66141 PENNIE
INFORMATION FOR SEQ ID NO: 3:
SEQUENCE CHARACTERISTICS:
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Best Local Similarity 86.73
Matches 26; Conservative
                                                                                                                                                                                                                                                                                                                                                                        GENERAL INFORMATION:
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                                                                                                                                                                                                                                                                                                                                                                                                                                                   APPLICANT: 1
APPLICANT: 1
APPLICANT: 1
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CITY: Ne
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1 LPPKVAPQAISSVENIEGNGGPGTIKKISF 30

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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            POLLEN FROM ALLERGON AB, ENGELHOLM, SWEDEN
APPLICANT: Breitender, Heimo
APPLICANT: Reikerstorfer, Arnold
APPLICANT: Valenta, Rudolf
APPLICANT: Valenta, Rudolf
APPLICANT: Breitenbach, Michael
APPLICANT: Breitenbach, Michael
APPLICANT: Kraft, Dietrich
APPLICANT: Rumpold, Helmut
APPLICANT: Scheiner, Otto
APPLICANT: Ebner, Christof
APPLICANT: Ferredra, Fatima
TITLE OF INVENTION: Allergens of Alder Pollen and
TITLE OF INVENTION: Applications Thereof
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         CURRENT APPLICATION DATA:
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/07/847,010
FILING DATE: 01-JUN-1992
CLASSIFICATION: 435
ATTORNEY/AGENT INFORMATION:
NAME: Jones III, Harry C
REGISCRATION NUMBER: 20,280
REGISCRATION NUMBER: 6530-010
TELEPROMONICATION INFORMATION:
TELEPROMONICATION INFORMATION:
TELEPRAS: (212) 790-9090
TELEPRAS: (212) 780-9090
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               3; Mismatches
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ADDRESSEE: Pennie & Edmonds
STREET: 1155 Avenue of the Americas
                                                                                                                                                                                                                                                                                                                                                                                                  CITY: New York
STATE: New York
COUNTRY: U.S.A.
ZIP: 10036-2711
COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC compatible
COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     RESULT 4
US-07-847-010-14
; Sequence 14, Application US/07847010
; Patent No. 5693495
; GENERAL INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ORGANISM: hazel (Corylus sp.)
IMMEDIATE SOURCE:
LIBRARY: POLLEN FROM ALLERGON
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           APPLICANT: Breiteneder, Heimo
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Sequence 5, Application US/10799514

Sequence 5, Application US/10799514

Publication No. US20040241178A1

GENERAL INFORMATION:

APPLICANT: Spertini, Francois

APPLICANT: Corthesy, Blaise

TITLE OF INVENTION: Allergen Peptide Fragments and Use Thereof

FILE REFERENCE: 25720-502

CURRENT APPLICATION NUMBER: US/10/799,514

CURRENT FILING DATE: 2004-03-12

PRIOR FILING DATE: 2003-03-14

NUMBER OF SEQ ID NOS: 203

SOFTWARE: PatentIn Ver. 2.1
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 31;
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                                                                                                                                                                                                                                     US-10-026-911-2
 SEQ ID NO 2
LENGTH: 31
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                                                                                                                                                                                                                                                                                                                                                                                                                 TYPE: PRT
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342.204 Million cell updates/sec
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Sequence 34,
Sequence 37,
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                                                                                                                                                                                                                                                                                                                                                                                                                                                       Sequence 2,
                                                                                                                                                                                                                                                                                                                                                                                                                                      Description
                                                                    April 17, 2006, 10:01:54 ; Search time 37.8508 Seconds
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Sequence Sequence Sequence Sequence
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1: /cgn2_6/ptodata/1/pubpaa/USO7_PUBCOMB.pep: *
2: /cgn2_6/ptodata/1/pubpaa/USO8_PUBCOMB.pep: *
3: /cgn2_6/ptodata/1/pubpaa/USO8_PUBCOMB.pep: *
4: /cgn2_6/ptodata/1/pubpaa/USIOA_PUBCOMB.pep: *
5: /cgn2_6/ptodata/1/pubpaa/USIOB_PUBCOMB.pep: *
6: /cgn2_6/ptodata/1/pubpaa/USIOB_PUBCOMB.pep: *
6: /cgn2_6/ptodata/1/pubpaa/USIOB_PUBCOMB.pep: *
           GenCore version 5.1.7
Copyright (c) 1993 - 2006 Biocceleration Ltd.
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US-09-981-028-1
US-09-981-208-34
US-09-847-208-34
US-09-847-208-38
US-09-847-208-38
US-09-847-208-38
US-09-957-806A-6
US-10-719-553-37
US-10-719-553-37
US-10-698-855-5
US-10-698-855-5
US-10-440-516-1
US-10-799-514-1
US-10-799-514-1
US-10-799-514-1
US-10-799-514-1
US-10-799-514-1
US-10-001-245-5
US-10-001-245-6
US-10-440-516-3
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US-09-847-208-39
US-09-847-208-41
                                                                                                                                                                                                Total number of hits satisfying chosen parameters:
                                                                                                                              1 LPPKVAPQAISSVENIEGNGGPGTIKKISFC
                                                                                                                                                                             1867569 seqs, 417829326 residues
                                                                                                                                                                                                                                                                                                                                                                                                         SUMMARIES
                                                                                                                                                                                                                                               Minimum Match 0%
Maximum Match 100%
Listing first 45 summaries
                                                 - protein search, using sw model
                                                                                                                                                          Gapop 10.0 , Gapext 0.5
                                                                                                                                                                                                                   Minimum DB seq length: 0
Maximum DB seq length: 2000000000
                                                                                                         US-10-026-911-2
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Match Length
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                                                                                                                      Perfect score:
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44, Appli
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Sequence 57,
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Sequence 45,
Sequence 36,
Sequence 42,
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Sequence 8
Sequence 1
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APPLICANT: Mahler, Vera
APPLICANT: Mahler, Vera
APPLICANT: Sperr, Wolfgang R.
APPLICANT: Valent, Peter
APPLICANT: Valent, Reaft, Dietrich
APPLICANT: Valenta, Rudolf
TILE REFERENCE: 0273-0005
CURRENT APPLICATION NUMBER: US/10/026,911
CURRENT APPLICATION NUMBER: US/10/026,911
CURRENT FILING DATE: 2002-07-24
NUMBER OF SEQ ID NOS: 6
SOFTWARE: Patentin Ver. 2.1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        100.0%; Score 161; DB 4; Length 31; larity 100.0%; Pred. No. 7.3e-16; Conservative 0; Mismatches 0; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    OTHER INFORMATION: Description of Artificial Sequence: OTHER INFORMATION: solvent-exposed peptide
US-09-847-208-43
US-10-001-245-3
US-10-001-245-7
US-10-440-516-5
US-10-440-516-7
US-10-440-516-7
US-10-440-516-7
US-10-440-516-7
US-10-440-516-43
US-10-440-516-45
US-10-440-516-45
US-10-001-245-2
US-10-001-245-2
US-10-001-245-2
US-10-001-245-1
US-10-001-245-1
US-10-001-245-1
US-10-001-245-1
US-09-847-208-87
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; Publication No. US20030078201A1
; GENERAL INFORMATION:
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94.4%; Score 152; DB 3; Length 159; 100.0%; Pred. No. 1e-13; Live 0; Mismatches 0; Indels
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ; TYPE: PRT
; ORGANISM: Betula verrucosa (White birch) (Betula pendula)
US-09-847-208-38
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ORGANISM: Betula verrucosa (White birch) (Betula pendula)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Sequence 38, Application US/09847208
; Beduence 38, Application US/09847208
; Publication No. US20030082190A1
; GENERAL INFORMATION:
; APPLICANT: Saxon, Andrew
; APPLICANT: Zhang, Ke
; APPLICANT: Zhang, Ke
; TITLE OF INVENTION: FUSION MOLECULES AND TREATMENT OF
; TITLE OF INVENTION: 198-MEDIATED ALLERGIC DISEASES
; FILE REFERENCE: UC67.002A
; CURRENT FILING DATE: 2001-05-01
; NUMBER OF SEQ ID NOS: 177
; SOFTWARE: PastSEQ for Windows Version 4.0
; SEQ ID NO 38
; LENGTH: 159
                                                                                                                                                                                            APPLICANT: Sharon, Andrew
APPLICANT: Zhang, Ke
APPLICANT: Zhang, Ke
APPLICANT: Zhu, Daocheng
TITLE OF INVENTION: PUSION MOLECULES AND TREATMENT OF
TITLE OF INVENTION: 1GE-MEDIATED ALLERGIC DISEASES
TITLE OF INVENTION: 1GE-MEDIATED ALLERGIC DISEASES
TITLE OF INVENTION: 1GE-MEDIATED ALLERGIC DISEASES
CURRENT APPLICATION NUMBER: US/09/847,208
CURRENT FILING DATE: 2001-05-01
NUMBER OF SEQ ID NOS: 177
SOFTWARE: FASTESO for Windows Version 4.0
SEQ ID NO 37
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APPLICANT: Zhang, Ke
APPLICANT: Zhang, Ke
TITLE OF INVENTION: EUSION MOLECULES AND TREATMENT OF
TITLE OF INVENTION: IGE-MEDIATED ALLERGIC DISEASES
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29 LPPKVAPQAISSVENIEGNGGPGTIKKISF 58
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; Sequence 40. Application US/09847208
; Publication No. US20030082190Al
; GENERAL INFORMATION:
                                                                                                                            Sequence 37, Application US/09847208 Publication No. US20030082190A1 GENERAL INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Query Match
Best Local Similarity 100.0
....hes 30; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       TYPE: PRT
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US-09-847-208-38
                                                                                                       US-09-847-208-37
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                                                                                                                            OTHER INFORMATION: Description of Artificial Sequence: Synthetic; CTHER INFORMATION: Peptide US-10-799-514-5
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                                                                                                                                                                                                                                 Query Match 94.4%; Score 152; DB 5; Length 125; Best Local Similarity 100.0%; Pred. No. 7.6e-14; Matches 30; Conservative 0; Mismatches 0; Indels
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US-09-847-208-34
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Sequence 34, Application US/09847208
| Publication No. US20030082190A1
| GENERAL INFORMATION:
| APPLICANT: SAXON, Andrew
| APPLICANT: Clang, Ke
| APPLICANT: Zhang, Ke
| TILLE OF INVENTION: FUSION MOLECULES AND TREATMENT OF
| TILLE OF INVENTION INFORMED ALLERGIC DISEASES
| FILE REFERENCE: UC67.002A
| CURRENT APPLICANTON NUMBER: US/09/847,208
| CURRENT FILING DATE: 2001-05-01
| NUMBER OF SEQ ID NOS: 177
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Sequence 1, Application US/09981009B; Publication No. US20030041354A1
GENERAL INFORMATION:
APPLICANT: Kjacrulff, Soren
TITLE OF INVENTION: Transgenic Plants
FILE REFERENCE: 10082.200-US
CURRENT APPLICATION NUMBER: US/09/981,009B; CURRENT FILING DATE: 2002-06-14
NUMBER OF SEQ ID NOS: 5
SOFTMARE: PatentIn version 3.1
SEQ ID NO II
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           29 LFPKVAPQAISSVENIEGNGGPGTIKKISF 58
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                                                    TYPE: PRT
ORGANISM: Artificial Sequence
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ORGANISM: Betula pendula
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LENGTH: 159
TYPE: PRT
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US-09-981-009B-1
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     SEQ ID NO 5
LENGTH: 125
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April 17, 2006, 10:05:54 ; Search time 6.85083 Seconds (without alignments) 192.264 Million cell updates/sec
GenCore version 5.1.7
Copyright (c) 1993 - 2006 Biocceleration Ltd.
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2: /SIDSS/ptodard/1/pubpad/USOB_NEW_PUB.pep:*
3: /SIDSS/ptodata/1/pubpad/USOB_NEW_PUB.pep:*
5: /SIDSS/ptodata/1/pubpad/USOB_NEW_PUB.pep:*
6: /SIDSS/ptodata/1/pubpad/USOB_NEW_PUB.pep:*
6: /SIDSS/ptodata/1/pubpad/USOB_NEW_PUB.pep:*
7: /SIDSS/ptodata/1/pubpad/USOB_NEW_PUB.pep:*
8: /SIDSS/ptodata/1/pubpad/USOB_NEW_PUB.pep:*
                                                                                                                                                                                                                                                                                                                                        1 LFPKVAPQAISSVENIEGNGGPGTIKKISFC 31
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Total number of hits satisfying chosen parameters:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Published Applications_AA_New:*
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 217505 segs, 42489236 residues
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Post-processing: Minimum Match 0%
Maximum Match 100%
Listing first 45 summaries
                                                                                                               OM protein - protein search, using sw model
                                                                                                                                                                                                                                                                                                                                                                                               BLOSUM62
Gapop 10.0 , Gapext 0.5
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Maximum DB seq length: 2000000000
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161
                                                                                                                                                                                                                                                                                                                                                                                               Scoring table:
                                                                                                                                                                                                                                                                                                          Perfect score:
                                                                                                                                                                                                                                                                                                                                             Sequence:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Searched:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Database
                                                                                                                                                                      Run on:
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Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

SUMMARIES

Description	Sequence 81, Appl	Sequence 18, Appl	Sequence 26, Appl		Sequence 185, App	Sequence 184, App	Sequence 187, App	Sequence 32, Appl	Sequence 30, Appl	Seguence 186, App	Sequence 19923, A	Sequence 21469, A	Sequence 87, Appl	Sequence 10124, A	Sequence 10123, A	Sequence 10122, A	Sequence 64, Appl	Sequence 9995, Ap	Sequence 7832, Ap	Sequence 1180, Ap	Sequence 8, Appli	Sequence 8119, Ap	Sequence 8943, Ap	Sequence 8767, Ap	Sequence 1177, Ap
OI.	US-10-498-026-81	US-11-102-883-18	US-11-102-883-26	US-11-102-883-6	US-11-172-740-185	US-11-172-740-184	US-11-172-740-187	US-11-102-883-32	US-11-102-883-30	US-11-172-740-186	US-11-096-568A-19923	US-11-096-568A-21469	US-10-498-026-87	US-11-096-568A-10124	US-11-096-568A-10123	US-11-096-568A-10122	US-10-927-641-64	US-11-188-298-9995	US-11-079-463-7832	US-11-172-740-1180	US-10-967-648A-8	US-11-079-463-8119	US-11-188-298-8943	US-11-188-298-8767	US-11-172-740-1177
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% Query Match Length DB	160	172	289	300	161	191	161	283	294	161	162	82	44	161	163	186	152	537	66	131	413	413	1011	1065	131
% Query Match	94.4	94.4	94.4	94.4	51.6	49.1	49.1	48.8	48.8	46.6	45.3	42.2	41.6	40.4	40.4	40.4	40.1	31.1	30.1	29.8	29.8	29.5	29.5	29.5	29.5
Score	152	152	152	152	83	79	79	78.5	78.5	75	73	68	67	65	65	65	64.5	20	48.5	48	48	47.5	47.5	47.5	47
Result No.	1	2	ю	4	S	9	7	80	σ	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25

	Sequence 8459, Ap	Sequence 9, Appli Sequence 2, Appli	1, Ap	13	Sequence 8705, Ap	Sequence 2070, Ap	Sequence 5158, Ap	Sequence 1726, Ap	Sequence 346, App	Seguence 346, App	Sequence 17, Appl	Sequence 62, Appl	Sequence 17, Appl	Sequence 346, App	Sequence 1, Appli	Sequence 14671, A
	US-11-087-099-8459 US-11-072-512-3594	US-11-145-631-9 US-11-091-928-2	1-091-928-1	US-11-052-554A-138	US-11-087-099-8705	US-11-072-512-2070	US-11-087-099-5158	US-11-087-099-1726	US-10-131-826A-346	US-10-973-115B-346	US-11-078-735-17	US-11-050-346-62	US-11-103-077-17	US-11-290-153-346	US-11-169-013-1	US-11-188-298-14671
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312	427 510	782	1403	1381	153	218	248	249	723	723	723	723	723	723	454	758
9.79	2.2	2.6	7	6.	9	9	9.	9	9.	9.	9	9	9	9	۳.	<u>.</u>
29	29	2 2	29	78	28	28	78	28	28	28	28	28	28	28	28	28
47	74	47	47	46.5	46	46	46	46	46	46	46	46	46	46	45.5	45.5
26 27	7 8 7 8	30	32	33	34	35	36	37	38	33	40	41	42	43	44	45

ALIGNMENTS

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US-10-498-026-81

US-10-498-026-81

US-10-498-026-81

Sequence Bi, Application US/1048026

Publication No. US200600243441

SEQUENCE Bi, Application No. US200600243441

SEQUENCE BIVERTION WINDER.

TITLE OF INVERTION WINDER.

US-10-498-026-81

SOCTHWAR PELIZION WINDER.

US-10-498-026-81

SOCTHWAR PELIZION WINDER.

US-10-498-026-81

SOCTHWAR PERIZION WINDER.

US-10-498-026-81

US-10-498-026
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RESULT 5
US-11-172-740-185
US-11-172-740-185
Sequence 185, Application US/11172740
Sequence 185, Application US/11172740
Sequence 185, Application No. US20060057724A1
GENERAL INFORMATION:
APPLICANT: ALEXANDROW, Nickolai
APPLICANT: ALEXANDROW, Nickolai
APPLICANT: BROVER, Vyacheslav
TITLE OF INVENTION: PLANT CHARACTERISTICS AND PHENOTYPES
TITLE OF INVENTION: PLANT CHARACTERISTICS AND PHENOTYPES
CURRENT APPLICATION NUMBER: 60/583,621
PRIOR FILING DATE: 2004-06-30
PRIOR FILING DATE: 2004-06-30
PRIOR FILING DATE: 2004-06-30
PRIOR FILING DATE: 2004-06-30
NUMBER OF SEQ ID NOS: 2523
SEQ ID NO 185
LENGTH: 161
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           FEATURE:
NAME/KEY: misc_feature
LOCATION:
OTHER INFORMATION: Utility: Useful for increasing chlorophyll and photosynthetic ca
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        INFORMATION: Utility: Useful for making plants with increased biomass and fol
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ö
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                         ; TYPE: PRT
; ORGANISM: Human immunodeficiency virus + Homo sapiens + Betula verrucosa
US-11-102-883-6
                                                                                                                                                                      Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Gaps
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ; OTHER INFORMATION: Utility: Useful for making smaller plants US-11-172-740-185
                                                                                                                   Length 300,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Query Match 51.6%; Score 83; DB 7; Length 161; Best Local Similarity 50.0%; Pred. No. 7.2e-05; Matches 14; Conservative 9; Mismatches 5; Indels
                                                                                                                                                                   0; Indels
                                                                                                                     7;
                                                                                                                   Query Match 94.4%; Score 152; DB 7; Best Local Similarity 100.0%; Pred. No. 1e-14; Matches 30; Conservative 0; Mismatches (
                                                                                                                                                                                                                                              170 LFPKVAPQAISSVENIEGNGGPGTIKKISF 199
                                                                                                                                                                                                                    1 LFPKVAPQAISSVENIEGNGGPGTIKKISF 30
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LOCATION: (1)._(161)
OTHER INFORMATION: Public GI no. 32165470
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NAME/KEY: misc_feature
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  LENGTH: 300
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APPLICANT: Fluckiger, Sabina
APPLICANT: Fluckiger, Sabina
APPLICANT: Pluckiger, Sabina
TITLE OF INVENTION: Modulating Immune Reactions, Associated Constructs, Methods and
TITLE OF INVENTION: Uses Thereof
FILE REFERENCE: 03100234pa
CURRENT APPLICATION NUMBER: US/11/102,883
CURRENT PILING DATE: 2005-04-11
PRIOR FILING DATE: 2005-04-11
PRIOR FILING DATE: 2003-10-09
NUMBER OF SEQ ID NOS: 44
SOFTWARE: Patentin version 3.2
SEQ ID NO 26
LENGTH: 289
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   APPLICANT: Crameri, Reto
APPLICANT: Crameri, Reto
APPLICANT: Fluckiger, Sabina
APPLICANT: Fluckiger, Sabina
APPLICANT: Pluckiger, Sabina
APPLICANT: Digle, Isabelle
TITLE OF INVENTION: Modulating Immune Reactions, Associated Constructs, Methods and
TITLE OF INVENTION: Wodulating Immune Reactions, Associated Constructs, Methods and
TITLE OF INVENTION: Womes Thereof
FILE REFERENCE: 031002348: US/11/102,883
CURRENT APPLICATION NUMBER: EP02022774.0
PRIOR PELING DATE: 2005-10-11
PRIOR FILING DATE: 2003-10-09
NUMBER OF SEQ ID NOS: 44
SOFTWARE: Patentin version 3.2
SEQ ID NO 6
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                                                                                                                                               Length 172;
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Best Local Similarity 100.0%; Pred. No. 5.3e-15;
Matches 30; Conservative 0; Mismatches 0;
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                                                                                                                                                                                                                                                1 LFPKVAPQAISSVENIEGNGGPGTIKKISF 30
                                                                                                                                                                                                                                                                             42 LFPKVAPQAISSVENIEGNGGPGTIKKISF 71
                                                                                                                                                                                                                                                                                                                                                                                                US-11-102-883-26; Application US/11102883; Sequence 26, Application US/11102883; Publication No. US20050281816A1; GENERAL INFORMATION: APPLICANT: Lamping, Norbert; APPLICANT: Crameri, Reto
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Sequence 6, Application US/11102883
Publication No. US20050281816A1
GENERAL INFORMATION
APPLICANT: Lamping, Norbert
APPLICANT: Crameri, Reto
SEQ ID NO 18
LYBCTH: 172
LYPE: PRT
ORGANISM: Betula verrucosa
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ; ORGANISM: tat-Ii-bet v 1
US-11-102-883-26
                                                                                                   US-11-102-883-18
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US-11-102-883-6
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us-10-026-911-3.rag

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April 17, 2006, 09:42:18; Search time 46.9282 Seconds (without alignments) 290.247 Million cell updates/sec
GenCore version 5.1.7
Copyright (c) 1993 - 2006 Biocceleration Ltd.
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1 CGPGTIKKISFPEGFPFKYVKDRVDEVDHTN
                                                                                                                                                                                                                                                                                                 2443163 seqs, 439378781 residues
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Maximum Match 100%
Listing first 45 summaries
                                                                      OM protein - protein search, using sw model
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Gapop 10.0 , Gapext 0.5
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geneseqp1990s:*
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geneseqp2005s:*
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Maximum DB seq length: 200000000
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1: geneseqp198
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                                                                                                          Run on:
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Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

	-	Description			Major	Birch	Majo	Bet v I				Birch	Birch		_	_	_	-	_	Aea81085 Birch/Gra	Adm57300 Modular a		wild t	Birch	Birch	Abg66961 Birch all
SUMMARIES		ΙD	ABB83632	ADR87216	ABM00015	ABB84185	AAR04605	AAR21796	ADC34898	ADF51168	ADQ14386	ADR87218	ADS52093	ADS14364	ADM57312	ADR87229	ADR87231	AEA81084	AEA81086	AEA81085	ADM57300	ADF51170	AAY45216	ABG66966	ABG67097	ABG66961
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		Length	31	125	159	159	160	160	160	160	160	160	160	160	172	195	195	221	222	225	300	160	159	159	159	159
		Match	100.0	94.8	94.8	94.8	94.8	94.8	94.8	94.8	94.8	94.8	94.8	94.8	94.8		94.8		94.8	94.8	94.8	92.0	-	91.4	~	91.4
		Score	174	165	165	165	165	165	165	165	165	165	165	165	165	165	165	165	165	165	165	160	159	159	159	159
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Gaps

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100.0%; Score 174; DB 5; llarity 100.0%; Pred. No. 4.1e-18; Conservative 0; Mismatches 0;

Query Match Best Local Similarity Matches 31; Conservat

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Length 31; Indels

Abg66969 Birch all 60096 Abg670096 Birch all 60093 Abg67009 Birch all 60062 Abg67000 Birch all 60064 Abg66962 Birch all 60097 Abg66967 Birch all 60097 Abg66967 Birch all 60097 Abg66967 Birch all 60097 Abg66968 Birch all 60102 Abg66968 Birch all 60106 Abg66968 Birch all 60109 Abg66968 Birch all 60100 Abg66968 Birch all 60100 Abg66968 Birch all 60100 Abg66909 Birch all 60100 Abg66909 Birch all 60100 Abg66909 Birch all 60100 Abg66900 Birch all 60100	A. e #3. peptide; allergy.	ent P, Kraft D, Valenta R; containing 8 to 50 amino acids. new composition containing it reatment of allergic diseases. The c Bet v 1-derived synthetic peptide, ific T-cell epitopes
159 5 ABG66969 159 5 ABG67096 159 5 ABG67093 159 5 ABG66967 159 5 ABG66967 159 5 ABG66967 159 5 ABG66987 159 5 ABG67101 159 5 ABG67101 159 5 ABG67101 159 5 ABG67106 159 5 ABG67106 159 5 ABG6968 159 5 ABG6968 159 5 ABG6968 159 6 ABG67106 159 7 ABG6968 159 8 ABG67106 159 8 ABG67106 159 8 ABG67106 159 8 ABG67106 159 8 ABG6968 159 8 ABG6968	entry) entry) hetic peptid v 1-derived 00128659.	The control of the co
25 26 27 159 91.4 29 159 91.4 33 159 91.4 33 33 159 91.4	33632 stan 33632; DCT-2002 v 1-deriv v 1-deric thetic. 219299-A1. DEC-2000;	Focke M, Mahler V, Si WPI; 2002-559804/60. Allergy vaccines compri Example 1; Page 6; 27pg The present invention a antiallergic peptides in present peptide is an which does not contain Sequence 31 AA;
	RESULT 1 ABB83632 XX XX AC ABB XX XX XX XX DT 10-(XX	\$

RESULT 2

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The invention relates to selecting a protein variant having modified immunogenicity, compared to a parent protein, comprising using the antibody binding sequence to localise epitops sequences on the three dimensional structure of the parent protein and defining an epitope area including amino acids within 5 Angstrom of the epitope amino acids. The method is useful for identifying structural epitopes on the 3-dimensional surface of commercial and environmental allergens. Compositions containing the protein variants are used as vaccines, detergents and personal care compositions, hair dyeing compositions, hair conditioners, hair waving compositions, hair dyeing compositions, hair tinse, hair spray, chewing quim, skin cream, sunscreen, shaving foam, cream soap, skin milk or foundation. The present sequence is that of a polypeptide of the invention
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Birch pollen allergen; Bet v1; transgenic plant; immunogenicity; epitope.
           Allergen; protein coordinate data; vaccine; antiallergic; immunogenicity; detergent; personal care composition; cosmetic.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Selecting protein variants having modified immunogenicity, used to produce vaccines, detergents and personal care compositions, involves localizing epitope sequences on the three-dimensional structure of a
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Score 165; DB 4; Length 159;
Pred. No. 5.3e-16;
                                                                                                                                                                                                                                                                                                                                                                                                              Friis EP,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            94.8%; Sco...
100.0%; Pred. No. 5...
... 0; Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       49 GPGTIKKISFPEGFPFKYVKDRVDEVDHTN 78
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Claim 34; Page 484; 513pp; English.
                                                                                                                                                                                                                                                                                                                                                                                                                Svendsen A,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ABB84185 standard; protein; 159
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Birch pollen allergen Bet vl.
                                                                                                                                                                                                                                                          28-APR-2000; 2000DK-00000707.
10-MAY-2000; 2000US-0203345P.
28-PEB-2001; 2001DK-00000327.
21-MAR-2001; 2001US-0277817P.
                                                                                                                                                                                                                 30-APR-2001; 2001WO-DK000293.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Local Similarity 100.
                                                                                                                                                                                                                                                                                                                                                                     (NOVO ) NOVOZYMES AS.
                                                                                                                                                                                                                                                                                                                                                                                                                Ernst S,
                                                                                                                                                                                                                                                                                                                                                                                                                                                         WPI; 2001-626552/72.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Sequence 159 AA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     WO200232947-A1.
                                                                                                                             WO200183559-A2.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Betula pendula
                                                                                 Betula pendula
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        30-SEP-2002
                                                                                                                                                                        08-NOV-2001.
                                                                                                                                                                                                                                                                                                                                                                                                                Roggen EL,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ABB84185;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Query Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       protein.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             The invention relates to novel compositions including contiguous overlapping peptide fragments which together form an entire amino acid sequence of an allergen, where the fragments are capable of inducing a T-cell response in patients who are hypersensitive to the allergen. The contiguous overlapping peptide fragments further result in lower levels of Igs stimulation activity. The lower levels of Igs stimulation activity are zero or weak. The contiguous overlapping peptide fragments further result in a decrease in T-cell response upon subsequent exposure to the allergen, thus, modulating an immune response in the patients, who are hypersensitive to the allergen. A composition of the invention has antiallergic activity, and may have a use in gene therapy, and as a vaccine. The composition and methods are useful for preventing or treating Igs-mediated allergies. The present sequence represents a fragment of an allergen of the invention, birch pollen Bet v 1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               New compositions including contiguous overlapping peptide fragments that form an entire amino acid sequence of an allergen (e.g. bee venom or birch pollen allergen), useful for preventing or treating IgE-mediated
                                                                                                                                                                                                                                   birch pollen; allergen; Bet v 1; T-cell response; IgE; immunoglobulin E; immune response; antiallergic; gene therapy; vaccine.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Gaps
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                                                                                                                                                                                               Birch pollen allergen Bet v 1 fragment SEQ ID NO:5.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           2 GPGTIKKISFPEGFPFKYVKDRVDEVDHTN 31
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Claim 2; SEQ ID NO 5; 82pp; English.
                                                             ADR87216 standard; protein; 125 AA.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ABM00015 standard; protein; 159
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                14-MAR-2003; 2003US-0455004P.
12-MAR-2004; 2004US-00799514.
                                                                                                                                                                                                                                                                                                                                                                                                                                         15-MAR-2004; 2004WO-IB001300
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Conservative
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         WPI; 2004-668931/65.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Sequence 125 AA;
                                                                                                                                                                                                                                                                                                                                                   WO2004081028-A2.
                                                                                                                                                      16-DEC-2004
                                                                                                                                                                                                                                                                                                                                                                                              23-SEP-2004
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Spertini F;
                                                                                                                                                                                                                                                                                                          Betula sp.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      allergies.
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                                                                                                           ADR87216;
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Von Der Osten

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Gaps

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Indels

31

25-APR-2002

9

Major pollen antigen Bet V 1-A SEQ ID NO

(first entry)

02-APR-2003

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RESULT 3

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GenCore version 5.1.7 Copyright (c) 1993 - 2006 Biocceleration Ltd.

OM protein - protein search, using sw model

April 17, 2006, 09:43:45; Search time 15.9282 Seconds (without alignments) 187.261 Million cell updates/sec Run on:

Title: Perfect score:

US-10-026-911-3 174 1 CGPGTIKKISFPEGFPFKYVKDRVDEVDHTN 31

Scoring table: Sequence:

283416 segs, 96216763 residues BLOSUM62 Gapop 10.0 , Gapext 0.5

Searched:

283416 Total number of hits satisfying chosen parameters:

Minimum DB seq length: 0 Maximum DB seq length: 2000000000

Post-processing: Minimum Match 0% Maximum Match 100% Listing first 45 summaries

1: pirl:* 2: pir2:* 3: pir3:* 4: pir4:* PIR_80:* Database

Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

SUMMARIES

pathogenesis-relat hypothetical prote	parnogenesis-reiar hypothetical prote ribosomal protein	TSI-1 protein - to intracellular path	pathogenesis-relat pathogenesis-relat	parnogenesis-telat pathogenesis-relat cytokinin-induced	pathogenesis-relat stress response ge	parnogenesis-relat pathogenesis-relat
S47140 S20517	S52664 S20518 T09391	T07403 T10732	T09659 S12568	S42649 S42650 T10059	S39754 T09526	T06417 S04553
000	200	00	000	0 00	00	7 7
158	155 158 83	178 157	157	157 158 140	158	94 155
44.3	43.7 43.1 42.5	42.5	41.4	40.8 40.8 20.8	38.8	36.2
7.7	75 74 74	73	27.	17 10 10 10	67.5	93
30	8 8 8 2 8 4	35 36	37	39 41 41	42 43	4 4 5 4

ALIGNMENTS

RESULT 1

E55699
major pollen allergen Bet v 1f/i - European white birch
C.Species: Betula pendula (Buropean white birch)
C;Date: 01-Dec-1995 #sequence revision 01-Dec-1995 #text_change 09-Jul-2004
C; Accession: E55699; S41905; S41900
R;Swoboda, I.; Jilek, A.; Ferreira, F.; Engel, E.; Hoffmann-Sommergruber, K.; Scheiner,
сh, м.
J. Biol. Chem. 270, 2607-2613, 1995
A; Title: Isoforms of Bet v 1, the major birch pollen allergen, analyzed by inquid chrom
A; Reference number: A55699; MUID: 95155322; PMID: 7852325
A;Accession: E55699
A; Molecule type: mRNA
A;Residues: 1-160 <swo></swo>
A; Cross-references: UNIPROT: P43179; UNIPARC: UP1000016DCF9; EMBL: X77268; NID: 9452735; P1
A;Note: the source is designated as Betula verrucosa
R;Swoboda, I.; Jilek, A.; Ferreira, F.; Vicente, O.; Hoffman-Sommergruber, K.; Heberle-
submitted to the EMBL Data Library, January 1994
A; Reference number: S41896
A;Accession: S41905
A;Status: preliminary
A; Molecule type: mRNA
A; Cross-references: UNIPARC: UP1000016DCF9; EMBL: X77274; NID: 9452745; PIDN: CAA54490.1; P
A,Note: the source is designated as Betula verrucosa
C;Superfamily: pathogenesis-related protein
C; Keywords: pollen
F;2-160/Product: major pollen allergen Bet v 1f/i #status experimental <mat></mat>
Ouery Match 94.8%; Score 165; DB 2; Length 160;
Matches 30; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

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RESULT 2 G55699

major pollen allergen Bet v 1j - Buropean white birch (Species: Betula pendula (Buropean white birch) (Species: Betula pendula (Buropean white birch) (Species: Betula pendula (Buropean white birch) (Species: Ol-Dec-1995 #sequence_revision Ol-Dec-1995 #text_change O9-Jul-2004 (Species: Ol-Dec-1995 #sequence_revision Ol-Dec-1995 #text_change O9-Jul-2004 (Species: Ol-Dec-1995 #text_change Of State (Species: Ol-Operation of Species: Ol-Operation ol-Operation of Species: Ol-Operation ol-Operat

RESULT 3

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A;Title: Isoforms of Bet v 1, the major birch pollen allergen, analyzed by liquid chroma A;Reference number: A55699; MUID:95155322; PMID:7852325
A;Accession: C55699
                                                                                                                                                                       A; Molecule type: mRNA
A; Residues: 1-160 < SWO.
A; Residues: 1-160 < SWO.
A; Cross-references: UNIPROT: P43177; UNIPARC: UPI000016DCF7; EMBL: X77266; NID: 9452731; Pll
A; Cross-references: UNIPROT: P43177; UNIPARC: UPI000016DCF7; EMBL: X77266; NID: 9452731; Pll
A; Note: the source is designated as Betula vertucosa
R; Swoboda, I.; Jilek, A.; Ferreira, F.; Vicente, O.; Hoffman-Sommergruber, K.; Heberle-l submitted to the EMBL Data Library, January 1994
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            A;Cross-references: UNIPARC:UPI000016DCF7; EMBL:X77270; NID:g452737; PIDN:CAA54486.1; P. A;Note: the source is designated as Betula verrucosa C;Superfamily: pathogenesis-related protein C;Superfamily: pathogenesis-related protein C;Keywords: pollen pollen allergen Bet v 1d/h #status experimental <MAT> F;2-160/Product: major pollen allergen Bet v 1d/h #status absent
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  A;Cross-references: UNIPROT:P41180; UNIPARC:UP1000016DCFA; EMBL:X77269; NID:9452727; PI. A;Note: the source is designated as Betula verrucosa C;Superfamily: pathogenesis-related protein C;Superfamily: pollen
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                J. Biol. Chem. 270, 2607-2613, 1995
A;Title: Isoforms of Bet v 1, the major birch pollen allergen, analyzed by liquid chrom
A;Reference number: A55699; MUID:95155322; PMID:7852325
A;Accession: I55699
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              major pollen allergen Bet v 1g - Buropean white birch
C;Species: Betula pendula (Buropean white birch)
C;Date: 0.1-Dec-1995 #sequence_revision 01-Dec-1995 #text_change 09-Jul-2004
C;Accession: F55699; 841896
R;Swoboda, I.; Jilek, A.; Ferreira, F.; Engel, E.; Hoffmann-Sommergruber, K.; Scheiner,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       A;Title: Isoforms of Bet v 1, the major birch pollen allergen, analyzed by liquid A;Reference number: A55699; MUID:95155322; PMID:7852325 A;Accession: F55699
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C;Species: Betula pendula (European white birch)
C;Date: 01-Dec-1995 #sequence_revision 01-Dec-1995 #text_change 09-Jul-2004
C;Accession: 155699; S41904
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Score 162; DB 2; Length 160;
Pred. No. 1.6e-15;
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Best Local Similarity 96...
Best Local Similarity 96...
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Matches 29; Conservative
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                A;Residues: 1-160 <SW2>
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A;Residues: 1-160 <SWO>
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              A; Accession: S41901
A; Status: preliminary
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       A; Molecule type: mRNA
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R; Ipsen, H; Hansen, O.C.

Mol. Immunol. 28, 1279-1288, 1991

A; Title: The NH2-terminal amino acid sequence of the immunochemically partial identical a; The NH2-terminal amino acid sequence of the immunochemically partial identical A; Title: The NH2-terminal amino acid sequence of the immunochemically partial identical A; Tet by International and Code of Code 
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   K; Breiteneder, H; Pettenburger, K; Bito, A; Valenta, R.; Kraft, D.; Rumpold, H.; Sche R; Breiteneder, H; Pettenburger, K; Bito, A; Valenta, R.; Kraft, D.; Rumpold, H.; Sche BMBO J. 8, 1935-1938, 1989
A; Title: The gene coding for the major birch pollen allergen Betvi, is highly homologous A; Reference number: S05376; MUID: 90005395; PMID: 2571499
A; Accession: S05376
A; Molecule type: mRNA
A; Residues: 1-156 - 6BRE.
A; Residues: 1-156 - 6BRE.
A; Residues: UNIPROT: P15494; UNIPARC: UPI0000000314; EMBL: X15877; NID: 917937; PIDN R; Kungl, A.J.; Susani, M.; Lindemann, A.; Machius, M.; Visser, A.J.W.G.; Scheiner, O.; K Biochem: Blophys: Res. Commun. 233, 187-192, 1996
A; Reference number: JC4834; MUID: 96254050; PMID: 9660368
A; Accession: JC4834
A; Residues: nucleic acid sequence not shown
A; Mesidues: 1-166 - KUNA
A;Cross-references: UNIPROT:P43183; UNIPARC:UP1000016DCFB; EMBL:X77271; NID:9452739; PIQ
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C;Species: Betula pendula (European white birch)
C;Date: 0.Dec-1995 #sequence=revision 01-Dec-1995 #text_change 09-Jul-2004
C;Accession: C55699; 841901; 541898
R;Swoboda, I.; Jilek, A.; Ferreira, F.; Engel, E.; Hoffmann-Sommergruber, K.; Scheiner,
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C;Species: Betula pendula (European white birch)
C;Date: 31-Mar-1990 #sequence revision 31-Mar-1990 #text_change 09-Jul-2004
C;Accession: S05376; JC4834; E53288
                                     A,Note: the source is designated as Betula verrucosa
C,Superfamily: pathogenesis-related protein
C,Keywords: pollen
F;2-160/Product: major pollen allergen Bet v 1j #status experimental <MAT>
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Pred. No. 5.9e-16;
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TISSUE=Pollen,
MEDLIRE=9947714; PubMed=10509815; DOI=10.1016/S0161-5890(99)00078-4;
MEDLIRE=9947714; PubMed=10509815; DOI=10.1016/S0161-5890(99)00078-4;
Priedl-Hajek R., Radauer C., Riordain G., Hoffmann-Sommergruber K.,
Leberl K., Scheiner O., Breiteneder H.;
Ineberl K., Scheiner O., Breiteneder H.;
New Bet v 1 isoforoms including a naturally occurring truncated form of the protein derived from Austrian birch pollen.";
MOI. Immunol. 36:639-645(1999).
MOI. Immunol. 36:639-645(1999).
MRSP: P15494; 186F.
SWR; Q9SCH7; 2-119.
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Eukaryota; Viridiplantae; Streptophyta; Embryophyta; Tracheophyta;

Spermatophyta; Magnoliophyta; eudicotyledons; core eudicots; rosids;
eurosids I; Fagales; Betulaceae; Betula.
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Pfam; PP00407; Bet v I; I.
PRINTS; PR00634; BETALLERGEN.
ProDom; PD000531; Bet v I; I.
SEQUENCE 120 AA: 13073 MW; 95EB4309C08B08BF CRC64;
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01-MAY-2000 (TrEMBLrel. 13, Last sequence update)
01-UNJ-2003 (TrEMBLrel. 24, Last annotation update)
Pollen allergen Betv1, isoform at87.
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Copyright (c) 1993 - 2006 Biocceleration Ltd.
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                                                                                                                             MEDLINE=99437514; PubMed=10509815; DOI=10.1016/S0161-5890(99)00078-4;
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MEDLINE=9515322, PubMed=7852325; DOI=10.1074/jbc.270.6.2607;
Swoboda I., Jilek A., Ferreira F., Engel E., Hoffman-Sommergruber K., Schainer O., Kraft D., Breiteneder H., Pittenauer E., Schmid E., Vicente O., Heberle-Bors E., Ahorn H., Breitenbach M.;
"Isoforms of Bet v I, the major birch pollen allergen, analyzed by liquid chromatography, mass spectrometry, and cDNA cloning.";
J. Biol. Chem. 270:2607-2613(1995).
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Elsayed S., Vik H.;

"Purification and N-terminal amino acid sequence of two birch pollen

"soallergens (Bet v I and Bet v II), ";

isoallergens (Bet v I amount). 93:378-384(1990).
                                                                                                                                                       Friedl-Hajek R., Radauer C., Rlordain G., Hoffmann-Sommergruber K., Leberl K., Scheiner O., Breitender H.; Scheiner V. isofenme including a naturally occurring truncated form of the protein derived from Austrian birch pollen."; Mol. Immunol. 36:639-645(1999).
EMBL; AJ006905; CAA07320.1; -; mRNA.
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Eukaryota, Viridiplantae, Streptophyta, Embryophyta, Tracheophyta, Spermatophyta, Magnoliophyta, eudicotyledons, core eudicotyledons, rosida, eurosida I, Fagales, Betulaceae, Betula.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           95EB4309C4CB4CBF CRC64;
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Pfam; PF00407; Bet v I; I.
PRINTS; PR00634; BETALLERGEN.
ProDom; P0000531; Bet v I; 1.
SEQUENCE 120 AA; 13055 MW;
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0 This Swiss-Prot entry is copyright. It is produced through a collaboration between the Swiss Institute of Bioinformatics and the EMBL outstation the Buropean Bioinformatics Institute. There are no restrictions on its use as long as its content is in no way modified and this statement is not cause of type Gaps Pathogenesis-related protein; Plant defense.
INIT MET 0 0 0 MEDLINE-97102431; PubMed-8946858; Gajhede M., Osmark P., Poulsen F.M., Ipsen H., Larsen J.N., Van Neerver R.J.J., Schou C., Loewenstein H., Spangfort M.D.; Nan Neerven R.J.J., Schou C., Loewenstein H., Spangfort M.D.; "X-ray and NWR structure of Bet v 1, the origin of birch pollen allergy."; Nat. Struct. Biol. 3:1040-1045(1996).

-:-SUBCELLULAR LOCATION: Cytoplasmic.
-:-ALLERGEN: Causes an allergic reaction in human. Is a cause of I allergic reactions in Europe, North America and USSR. ó Score 165; DB 1; Length 159; Pred. No. 2.7e-15; Indels 17440 MW; 96E181194BBA83E6 CRC64; PDB; 186F; NWR; @=1-159.
PDB; 18TV; NWR; @=1-159.
PDB; 18V1; X-ray; @=1-159.
PDB; 18V1; X-ray; A|D/G/J=1-159.
PDB; 11LT; X-ray; A=1-159.
PDB; 1QMR; X-ray; A=1-159.
PDB; 1QMR; X-ray; A=1-159.
PRIMIS; PRO003016; Bet v. I.
PRIMTS; PRO0031; Bet v. I.
PRIMTS; PRO0031; Bet v. I; I.
PRIMTS; PRO0044; BETALLERGEN.
PROSTTE; PS00451; PATH/GENESIS.
BCSTTE; PS00451; P 100.0%; Preq. .v.. 49 GPGTIKKISFPEGFPFKYVKDRVDEVDHTN 78 2 GPGTIKKISFPEGFPFKYVKDRVDEVDHTN 31 .. ! EMBL; X15877; CAA33887.1; -; mRNA. EMBL; Z80098; CAB02153.1; -; mRNA. EMBL; Z80099; CAB02154.1; -; mRNA. EMBL; Z80104; CAB02159.1; -; mRNA. 94.8%; 30; Conservative 155 1 159 AA; Query Match Best Local Similarity S05376; INIT MET VARIĀNT SEQUENCE

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Sequence 23, Appli
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1 CGPGTIKKISFPEGFPFKYVKDRVDEVDHTN 31
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28 48 27.6 779 29 48 27.6 2233 31 48 27.6 2233 31 48 27.6 2233 32 47.5 27.3 337 33 47 27.0 293 34 47 27.0 1075 35 47 27.0 1075 36 47 27.0 1178 37 46.5 26.7 341 38 46.5 26.7 341 40 46.5 26.7 461 412 46.5 26.7 461 42 46.5 26.7 491 43 46.5 26.7 491 44 46.5 26.7 491 45 26.4 401 45 26.4 401 45 26.4 401 45 26.4 401 46 26.4 401 47 27.0 1035 48 46.5 26.7 461 48 46.5 26.7 461 49 46.5 26.7 461 40 46.5 26.7 461 41 46.5 26.7 461 42 46.5 26.7 461 43 46.5 26.7 461 44 40.1 153 44 40.1 153 45 26.4 401 45 26.4 401 46 26.4 401 47 27.0 1036 48 26.4 401 48 26.4 401 49 46.5 26.7 461 40 10.2 40 10	SULT 1 10.7-847-010-23 Sequence 23, Application US/07847010 Patent No. 5693495 GENERAL INFORMATION: GENERAL INFORMATION: APPLICANT: Reikerstorfer, Arnold APPLICANT: Reikerstorfer, Michael APPLICANT: Renebach, Michael APPLICANT: Rumpold, Helmut APPLICANT: Rumpold, Helmut APPLICANT: Renebach, Michael APPLICANT: Renebach, Michael APPLICANT: Renebach, Michael APPLICANT: Ereitenbach, Michael APPLICANT: Renebach, Michael APPLICANT: Brenter, Otto APPLICANT: Perreira, Patient APPLICANT: Perreira, Patient COUNTRY: U S.A. ZIP: 10036-271 COUNTRY: U S.A. ZIP: 10036-271 COUNTRY: ISM PC Compatible OPERATING SYSTEM: PC Compatible OPERATING SYSTEM: PC COMPATION: MARE: PATENTION NUMBER: US/07/847,010 FILING DATE: 01-UN-1992 CILASSIFICATION NUMBER: 20,280 REFERENCE/DOCKET NUMBER: 20,280 TELEFAX: (212) 869-9741/8864 TELEFAX: (212) 869-9741/8864 TELEFAX: (212) 869-9741/8864 TELEFAX: (312) 869-9741/8864

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50 GPGTIKKITFPEGSPFKYVKERVDEVDRVN 79
                                                                                                            Sequence 11, Application US/07847010 Patent No. 5693495
                                                                                                                                                         GENERAL INFORMATION:
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                                                                     RESULT 3
US-07-847-010-11
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APPLICANT:
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                                                                                                                Length 160;
                                                                                                                                                                Indels
                        IMMEDIATE SOURCE:
; LIBRARY: POLLEN FROM ALLERGON AB, ENGELHOLM, SWEDEN US-07-847-010-23
                                                                                                                                                                                                                                                                                                                                                                                                                                 APPLICANT: Breiteneder, Heimo APPLICANT: Reikerstorfer, Arnold APPLICANT: Valenta, Rudolf APPLICANT: Hoffmann - Sommergruber, Karin APPLICANT: Breitenbach, Michael APPLICANT: Breitenbach, Michael APPLICANT: Rumpold, Helmut APPLICANT: Scheiner, Otto APPLICANT: Scheiner, Otto APPLICANT: Bener, Christoff APPLICANT: Ferreira, Fatima TITLE OF INVENTION: Allergens of Alder Pollen and TITLE OF INVENTION: Applications Thereof
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             COMPUTER: Floppy disk

COMPUTER: IBM PC compatible

COMPUTER: IBM PC compatible

COMPRAING SYSTEM: PC-DOS/MS-DOS

SOFTWARE: Patentin Release #1.0, Version #1.25

CURRENT APPLICATION DATA:

APPLICATION NUMBER: US/07/847,010

FILING DATE: US/07/847,010

TELESTRATION NUMBER: 20,280

REGISTRATION NUMBER: 20,280

REGISTRATION NUMBER: 5530-010

TELESTRAK: (212) 790-9090

TELESTAK: (212) 790-9090

TELESTAK: (212) 869-9741/8864

TELEX: 66141 PENNIE

INFORMATION FOR SEQ ID NO: 3:

SEQUENCE CHARACTERISTICS:
                                                                                                                Query Match 94.8%; Score 165; DB 1; I
Best Local Similarity 100.0%; Pred. No. 1.8e-17;
Matches 30; Conservative 0; Mismatches 0;
                                                                                                                                                                                                                                    50 GPGTIKKISFPEGFPFKYVKDRVDEVDHTN 79
                                                                                                                                                                                                            2 GPGTIKKISFPEGFPFKYVKDRVDEVDHTN 31
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1155 Avenue of the Americas
                                                                                                                                                                                                                                                                                                                                                                     Sequence 3, Application US/07847010 Patent No. S693495 GENERAL INFORMATION:
  ORGANISM: birch (Betula sp.)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   HYPOTHETICAL: NO ORIGINAL SOURCE: ORGANISM: Alder (Alnus sp.)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        LENGTH: 160 amino acids
TYPE: amino acid
TOPOLOGY: linear
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              STREET: 1155 Avenue o
CITY: New York
STATE: New York
COUNTRY: U.S.A.
ZIP: 10036-2711
COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy d
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MOLECULE TYPE: peptide
HYPOTHETICAL: NO
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CORRESPONDENCE ADDRESS:
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2 GPGTIKKISFPEGFPFKYVKDRVDEVDHTN 31

ö Gaps .; 0 Score 117; DB 1; Length 160; Pred. No. 4.3e-10; 4; Mismatches 4; Indels POLLEN FROM ALLERGON AB, ENGELHOLM, SWEDEN APPLICANT: NEINCLEA, RUGOLE
APPLICANT: Valenta, Rudolf
APPLICANT: Hoffmann - Sommergruber, Karin
APPLICANT: Bettenbach, Michael
APPLICANT: Reaft, Dietrich
APPLICANT: Rumpold, Helmut
APPLICANT: Rumpold, Helmut
APPLICANT: Scheiner, Otto
APPLICANT: Ferreira, Patima
TITLE OF INVENTION: Allergens of Alder Pollen and
TITLE OF INVENTION: Applications Thereof
NUMBER OF SEQUENCES: 23
CORRESPONDENCE ADDRESS: CURRENT APPLICATION DATA:
APPLICATION NATA:
APPLICATION NUMBER: US/07/847,010
FILING DATE: 01-JUN-1992
CLASSIFICATION: 435
ATTONENY/AGENT INFORMATION:
NAME: JONES III, Harry C
REGISTRATION NUMBER: 20,280
REGISTRATION NUMBER: 6530-010
TELERONMINICATION INFORMATION:
TELERONMINICATION INFORMATION: Breiteneder, Heimo Reikerstorfer, Arnold Valenta, Rudolf Hoffmann - Sommergruber, Karin 50 GPGTIKNITFGEGSRYKYVKERVDEVDNTN 79 2 GPGTIKKISFPEGFPFKYVKDRVDEVDHTN 31 ISEE: Pennie & Edmonds 1: 1155 Avenue of the Americas New York STATE: New York
COUNTRY: U.S.A.
ZIP: 10036-2711
COMPUTER READABLE FORM:
MEDIUM TYPE: FLORPY disk
COMPUTER: IBM PC COMPALIBLE
OPERATING SYSTEM: PC-DOS/MS-DOS Sequence 14, Application US/07847010; Patent No. 5633495; GENERAL INFORMATION:
APPLICANT: Breiteneder, Helmo ORGANISM: hazel (Corylus sp.) TELEX: 66141 PENNIE INFORMATION FOR SEQ ID NO: 11: SEQUENCE CHARACTERISTICS: Query Match 67.2%; Best Local Similarity 73.3%; Matches 22; Conservative LENGTH: 160 amino acids TYPE: amino acid TOPOLOGY: linear MOLECULE TYPE: peptide HYPOTHETICAL: NO

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Local Similarity
                   31;
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US-10-799-514-5
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Sequence 5, Appli
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Sequence 34, Appl
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Sequence 3
Sequence 4
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1: /cgn2_6/ptodata/1/pubpaa/US07_PUBCOMB.pep:*
2: /cgn2_6/ptodata/1/pubpaa/US08_PUBCOMB.pep:*
3: /cgn2_6/ptodata/1/pubpaa/US09_PUBCOMB.pep:*
4: /cgn2_6/ptodata/1/pubpaa/US10A_PUBCOMB.pep:*
5: /cgn2_6/ptodata/1/pubpaa/US10B_PUBCOMB.pep:*
5: /cgn2_6/ptodata/1/pubpaa/US10B_PUBCOMB.pep:*
          GenCore version 5.1.7
Copyright (c) 1993 - 2006 Biocceleration Ltd.
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1 CGPGTIKKISFPEGFPFKYVKDRVDEVDHTN 31
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US-09-981-09B-1
US-09-981-09B-1
US-09-947-208-38
US-09-947-208-40
US-09-957-806A-6
US-10-440-516-2
US-10-440-516-6
US-10-799-514-7
US-10-799-514-18
US-10-799-514-18
US-10-799-514-18
US-10-799-514-18
US-10-799-514-208-36
US-09-847-208-36
US-09-847-208-36
US-00-1245-3
US-10-001-245-3
US-10-001-245-3
US-10-001-245-5
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US-10-440-516-4
US-10-440-516-5
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Maximum Match 100%
Listing first 45 summaries
                                                    - protein search, using sw model
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Gapop 10.0 , Gapext 0.5
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Maximum DB seq length: 200000000
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Match Length
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; Publication No. US20040241178A1
; General INFORMATION:
; APPLICANT: Spertini, Francois
; APPLICANT: Corthesy, Blaise
; TITLE OF INVENTION: Allergen Peptide Fragments and Use Thereof
; FILE REFERENCE: 25720-502
; CURRENT APPLICATION NUMBER: US/10/799,514
; CURRENT FILING DATE: 2004-03-12
; PRIOR PILING DATE: 2003-03-14
; NUMBER OF SEQ ID NOS: 22
; SOFTWARE: Patentin Ver. 2.1
                                                           Sequence
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APPLICANT: Mahler, Vera
APPLICANT: Waller, Vera
APPLICANT: Valent, Wolfgang R.
APPLICANT: Valent, Peter
APPLICANT: Valenta, Rudolf
APPLICANT: Valenta, Rudolf
TITLE OF INVERTION: Allergy Vaccines and Their Preparation
FILE REFERENCE: 0273-0005
CURRENT APPLICATION NUMBER: US/10/026,911
CURRENT FILING DATE: 2002-07-24
NUMBER OF SEQ ID NOS: 6
SOUTHARE: Patentin Ver: 2.1
SEQ ID NO 3
LENGTH: 31
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Length 31;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                100.0%; Score 174; DB 4;
llarity 100.0%; Pred. No. 1.9e-18;
Conservative 0; Mismatches 0;
US-10-440-516-7
US-10-440-516-44
US-10-040-516-45
US-10-001-245-9
US-10-001-245-1
US-10-001-245-1
US-10-001-245-1
US-10-001-245-1
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US-10-440-516-24
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ; Sequence 3, Application US/10026911
; Publication No. US20030078201A1
; GENERAL INFORMATION:
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ORGANISM: Artificial Sequence
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49 GPGTIKKISFPEGFPFKYVKDRVDEVDHTN 78
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; Publication No. US20030082190A1
; GENERAL INFORMATION:
; APPLICANT: Saxon, Andrew
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             RESULT 6
US-09-847-208-40
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                                                                  PEATURE:
// OTHER INFORMATION: Description of Artificial Sequence: Synthetic
// OTHER INFORMATION: Peptide
// OTHER INFORMATION: Peptide
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                                                                                                                                                   Query Match 94.8%; Score 165; DB 5; Length 125; Best Local Similarity 100.0%; Pred. No. 2.2e-16; Matches 30; Conservative 0; Mismatches 0; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          94.8%; Score 165; DB 3; Length 159, 100.0%; Pred. No. 2.9e-16;
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                                                                                                                                                                                                                                                                                                                                  Sequence 1. Application US/09981009B
Publication No. US20030041354A1
GENERAL INFORMATION:
APPLICANT: Kjaerulff, Soren
TILE CP INVENTION: Transgenic Plants
FILE REFERENCE: 10082.200-US
CURRENT FILIDE APPLICATION NUMBER: US/09/981,009B
CURRENT FILIDE APPLICATION NUMBER: US/09/981,009B
CURRENT FILIDE APPLICATION NUMBER: US/09/981,009B
SOFTWARE: PATENTIN VEXESON 3.1
                                                                                                                                                                                                                                          SO GPGTIKKISFPEGFPFKYVKDRVDEVDHTN 79
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     49 GPGTIKKISFPEGFPFKYVKDRVDEVDHTN 78
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Best Local Similarity 100.0%; Pred. No. 2.9
Matches 30; Conservative 0; Mismatches
                                                                                                                                                                                                                       2 GPGTIKKISFPEGFPFKYVKDRVDEVDHTN 31
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                2 GPGTIKKISFPEGFPFKYVKDRVDEVDHTN 31
                                   TYPE: PRT ORGANISM: Artificial Sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               TYPE: PRT
ORGANISM: Betula pendula
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              SEQ ID NO 1
                                                                                                                                                                                                                                                                                                                           US-09-981-009B-1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           US-09-847-208-34
   SEQ ID NO 5
LENGTH: 125
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Gaps Gaps ö ; 0 Query Match
94.8%; Score 165; DB 3; Length 159;
Best Local Similarity 100.0%; Pred. No. 2.9e-16;
Matches 30; Conservative 0; Mismatches 0; Indels Query Match 94.8%; Score 165; DB 3; Length 159; Best Local Similarity 100.0%; Pred. No. 2.9e-16; Matches 30; Conservative 0; Mismatches 0; Indels ; ORGANISM: Betula verrucosa (White birch) (Betula pendula) US-09-847-208-40 ORGANISM: Betula verrucosa (White birch) (Betula pendula) Sequence 38, Application US/09847208
| Publication No. US20030082190A1
| GENERAL INFORMATION:
| GENERAL INFORMATION:
| APPLICANT: SAARON, Andrew
| APPLICANT: Zhang, Ke
| TITLE OF INVENTION: FUSION MOLECULES AND TREATMENT OF
| TITLE OF INVENTION: FUSION MOLECULES AND TREATMENT OF
| TITLE OF INVENTION: FUSION MOLECULES AND TREATMENT OF
| TITLE OF INVENTION: FUSION MOLECULES AND TREATMENT OF
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| TITLE OF INVENTION: FUSION MOLECULES AND TREATMENT OF
| TITLE OF INVENTION: FUSION MOLECULES AND TREATMENT OF
| TITLE OF INVENTION: FUSION MOLECULES AND TREATMENT OF APPLICANT: Zhang, Ke
APPLICANT: Zhang, Ke
APPLICANT: Zhu, Daocheng
TITLE OF INVENTION: FUSION MOLECULES AND TREATMENT OF
TITLE OF INVENTION: 19E-MEDIATED ALLERGIC DISEASES
FILE REFERENCE: UC67.002A
CURRENT APPLICATION NUMBER: US/09/847, 208
CURRENT FILING DATE: 2010-05-01
NUMBER OF SEQ ID NOS: 177
SOFTWARE: FastSEQ for Windows Version 4.0
SEQ ID NO 40 49 GPGTIKKISFPEGFPFKYVKDRVDEVDHTN 78 49 GPGTIKKISFPEGFPFKYVKDRVDEVDHTN 78 2 GPGTIKKISFPEGFPFKYVKDRVDEVDHTN 31 2 GPGTIKKISFPEGFPFKYVKDRVDEVDHTN 31 Sequence 6, Application US/09957806A ; Benlication No. US20050181446A1 ; GENERAL INFORMATION: ; APPLICANT: ROGGEN, Erwin ; APPLICANT: Brnst, Steffen ; APPLICANT: Friis, Esben ; APPLICANT: Osten, Claus

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2 GPGTIKKISFPEGFPFKYVKDRVDEVDHTN 31

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Sequence 81, Appl
Sequence 18, Appl
Sequence 6, Appli
Sequence 184, App
Sequence 185, App
Sequence 186, App
Sequence 187, App
Sequence 32, Appl
Sequence 32, Appl
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Sequence 21158, A
Sequence 14743, A
Sequence 64, Appl
Sequence 310, Appl
Sequence 1, Appli
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                                                                       April 17, 2006, 10:05:54; Search time 6.85083 Seconds (without alignments) 192.264 Million cell updates/sec
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Description
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Sequence 4
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GenCore version 5.1.7
Copyright (c) 1993 - 2006 Biocceleration Ltd.
                                                                                                                                                                                                                                                                                                                                                             1 / SIDSS/ptodata/1/pubpaa/USO8 NEW_PUB.pep:*
2 / SIDSS/ptodata/1/pubpaa/USO6 NEW_PUB.pep:*
3 / SIDSS/ptodata/1/pubpaa/USO7_NEW_PUB.pep:*
5 / SIDSS/ptodata/1/pubpaa/USO7_NEW_PUB.pep:*
6 / SIDSS/ptodata/1/pubpaa/USO9_NEW_PUB.pep:*
6 / SIDSS/ptodata/1/pubpaa/USO10_NEW_PUB.pep:*
7 / SIDSS/ptodata/1/pubpaa/USO10_NEW_PUB.pep:*
8 / SIDSS/ptodata/1/pubpaa/USO10_NEW_PUB.pep:*
9 / SIDSS/ptodata/1/pubpaa/USO10_NEW_PUB.pep:*
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US-11-102-883-18
US-11-102-883-6
US-11-102-883-6
US-11-172-740-184
US-11-172-740-185
US-11-172-740-185
US-11-172-740-187
US-11-102-883-32
US-11-102-883-32
US-11-188-298-1985
US-11-188-298-1158
US-11-188-298-14743
US-10-207-641-64
US-10-209-208-1
US-10-209-208-4
US-10-209-208-4
US-10-209-208-4
US-10-209-208-4
US-10-209-208-8
                                                                                                                                      174
1 CGPGTIKKISFPEGFPFKYVKDRVDEVDHTN 31
                                                                                                                                                                                                                                       Total number of hits satisfying chosen parameters:
                                                                                                                                                                                                                                                                                                                                                    Published_Applications_AA_New:*
                                                                                                                                                                                                              217505 segs, 42489236 residues
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                                                                                                                                                                                                                                                                                                   Post-processing: Minimum Match 0%
Maximum Match 100%
Listing first 45 summaries
                                                  OM protein - protein search, using sw model
                                                                                                                                                                         BLOSUM62
Gapop 10.0 , Gapext 0.5
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Maximum DB seq length: 2000000000
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Match Length DB
                                                                                                                           US-10-026-911-3
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                                                                                                                                        Perfect score:
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                                                                                                                                                   Sequence:
                                                                                                                                                                                                                Searched:
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Seguence 8, Apply	Sequence 12, Appl	Sequence 6, Appl	Sequence 6, Appl	Seguence	Sequence) Sequence	Sequence	Sequence Sequence	Sequence 932, Ap	Sequence 931, App	Sequence	Seguence	3 Sequence 2153, A	.2 Sequence 2152, A	1 Sequence	Sequence 7691, A	Sequence 804, App	.8 Sequence 17898,	Sequence 381, App
US-11-187-622-8	US-11-187-622-12	US-10-209-208-6	US-11-218-880-6	US-11-082-154A-40	US-11-079-463-8427	US-11-096-568A-757	US-11-096-568A-7576	US-11-096-568A-757	US-11-172-740-932	US-11-172-740-931	US-11-079-463-7535	US-10-467-657-2086	US-11-096-568A-215	US-11-096-568A-215	US-11-096-568A-215	US-11-079-463-7691	US-10-793-626-804	US-11-188-298-17898	US-11-024-959-381
7	7	9	7	7	7	7	7	7	7	7	7	9	7	7	7	,	9	7	7
225	225	226	226	230	740	302	348	350	350	357	1021	366	532	561	601	287	453	505	607
28.7	28.7	28.7	28.7	28.7	28.7	28.2	28.2	28.2	27.6	27.6	27.6	27.3	27.3	27.3	27.3	26.7	26.7	26.7	26.7
20	20	20	20	20	20	49	4	49	48	48	48	47.5	47.5	47.5	47.5	46.5	46.5	46.5	46.5
56	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45

ALIGNMENTS

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Gaps
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                           Sequence 81, Application US/10498026; Publication No. US20060024334A1; GENERAL INFORMATION:
APPLICANT: CIRCASSIA LIMITED
TITLE OF INVENTION: IMMUNOTHERAPEUTIC METHODS AND SYSTEMS; FILE REFERENCE: N. 1847430 WO GCW; CURRENT FILING DATE: 2004-06-04; NUMBER OF SEQ ID NOS: 118; SEQ ID NOS: 128; SEQ ID NO 81; SEQ ID NO 81.
                                                                                                                                                                                                                                                                                                                                                                    Score 165; DB 6; Length 160;
Pred. No. 5.6e-17;
                                                                                                                                                                                                                                                                                                                                                                                                             Indels
                                                                                                                                                                                                                                                                                                                                                                    Query Match
94.8%; Score 165; DE
Best Local Similarity 100.0%; Pred. No. 5.6
Matches 30; Conservative 0; Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                      50 GPGTIKKISFPEGFPFKYVKDRVDEVDHTN 79
                                                                                                                                                                                                                                                                                                                                                                                                                                                 2 GPGTIKKISFPEGFPFKYVKDRVDEVDHTN 31
                                                                                                                                                                                                                                                                                                         , ORGANISM: Betula pendula
US-10-498-026-81
RESULT 1
US-10-498-026-81
                                                                                                                                                                                                                                                                 LENGTH: 160
TYPE: PRT
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RESULT 2
US-11-102-883-18
US-11-102-883-18
Sequence 18, Application US/11102883
Sequence 18, Application No. US20050281816A1
Sequence 18, Application No. US20050281816A1
GENERAL INFORMATION:
APPLICANT: Lamping, Norbert
APPLICANT: Crameri, Reto
APPLICANT: Crameri, Reto
APPLICANT: Daigle, Isabela
ITILE OF INVENTION: Modulating Immune Reactions, Associated Constructs, Methods an
ITILE OF INVENTION: Wodulating Immune Reactions, Associated Constructs, Methods an
ITILE OF INVENTION: Uses Thereof
ITILE REFERENCE: 03100234pa
CURRENT APPLICATION NUMBER: EP02022774.0
FRIOR APPLICATION NUMBER: EP02022774.0
FRIOR APPLICATION NUMBER: EP02022774.0
FRIOR APPLICATION NUMBER: P07/EP2003/011190
FRIOR SEQ ID NOS: 44
SOFTWARE: PatentIn version 3.2
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Sequence 20, Sequence 24, Sequence 2, A Sequence 3, A

US-11-218-880-24 US-11-100-988-2 US-11-100-988-3

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Gaps

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US-11-1/4-740-184
; Sequence 184, Application US/11172740
; Sequence 184, Application US/20060057724A1
; GENERAL INFORMATION:
GENERAL INFORMATION:
APPLICANT: MASCIA, Peter
; APPLICANT: ALEXANDROW, NICKCOLAI
; TITLE OF INVENTION: NUCLECOTIDE SEQUENCES AND POLYPEPTIDES ENCODED THEREBY USEFUL FOR
; TITLE OF INVENTION: PLANT CHARACTERISTICS AND PHENOTYPES
; TITLE OF INVENTION: PLANT CHARACTERISTICS AND PHENOTYPES
; TITLE OF INVENTION: UNMBER: 60/583, 621
; CURRENT FILING DATE: 2004-06-30
; PRIOR APPLICATION NUMBER: 60/584, 829
; PRIOR FILING DATE: 2004-06-30
; PRIOR PILING DATE: 2004-06-30
; NUMBER OF SEQ ID NOS: 2523
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            OTHER INFORMATION: Utility: Useful for increasing chlorophyll and photosynthetic car
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   LOCATION:
OTHER INFORMATION: Utility: Useful for making plants with increased biomass and fol
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      OTHER INFORMATION: Utility: Useful for making plants with increased biomass
                                ; TYPE: PRT
; ORGANISM: Human immunodeficiency virus + Homo sapiens + Betula verrucosa
US-11-102-883-6
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         OTHER INFORMATION: Utility: Useful for delaying flowering time
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Length 161;
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                                                                                                                                                               Length 300
                                                                                                                                                                                                                                        Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Query Match 42.2%; Score 73.5; DB 7; Best Local Similarity 45.2%; Pred. No. 0.0017; Matches 14; Conservative 8; Mismatches 8;
                                                                                                                                                               Query Match
94.8%; Score 165; DB 7;
Best Local Similarity 100.0%; Pred. No. 1.1e-16;
Matches 30; Conservative 0; Mismatches 0;
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LOCATION: (1).7(161)
OTHER INFORMATION: Public GI no. 32165478
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NAME/KEY: misc_feature
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ORGANISM: Glycine max
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       RESULT 5
US-11-172-740-184
LENGTH: 300
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US-11-103-883-26

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; Sequence 6, Application US/11102883
; Publication No. US20050281816A1
; GENERAL INFORMATION:
CENERAL INFORMATION:
CENERAL INFORMATION:
CENERAL INFORMATION:
CENERAL INFORMATION:
CENERAL INFORMATION:
CENERAL INFORMATION:
CONTROL OF INVENTION:
CONTROL OF INVENTION:
CURRENT PAPLICANT:
CURRENT APPLICANTON:
CURRENT APPLICATION NUMBER: US/11/102,883
CURRENT PILING DATE: 2005-04-11
FRIOR FILING DATE: 2003-10-11
FRIOR FILING DATE: 2003-10-11
FRIOR FILING DATE: 2003-10-09
NUMBER:
CURRENT PRIOR FILING DATE: 2003-10-09
NUMBER:
CONTROL OF SEQ ID NOS: 44
SOFTWARE: PATCHING VERSION 3.2
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                                                                                                                                                                                                       Query Match 94.8%; Score 165; DB 7; Length 172; Best Local Similarity 100.0%; Pred. No. 6.1e-17; Matches 30; Conservative 0; Mismatches 0; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Query Match 94.8%; Score 165; DB 7; Length 289; Best Local Similarity 100.0%; Pred. No. 1.1e-16; Matches 30; Conservative 0; Mismatches 0; Indels
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                                                                                                                                                                                                                                                                                                                                                                                         62 GPGTIKKISFPEGFPFKYVKDRVDEVDHTN 91
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         2 GPGTIKKISFPEGFPFKYVKDRVDEVDHTN 31
                                                                                                                                                                                                                                                                                                                                                 2 GPGTIKKISFPEGFPFKYVKDRVDEVDHTN 31
                                                                                                     ORGANISM: Betula verrucosa
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ; ORGANISM: tat-Ii-bet v 1
US-11-102-883-26
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US-11-102-883-6
SEQ ID NO 18
LENGTH: 172
                                                                 TYPE: PRT
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                                                                                          Birch
                                                                                                                                                                                                                                                                                                                                                                                               50 amino acids
            Abg67106 Abg67106 Abg67094 Abg67094 Aar04605 Adg73489 Adg14386 Adg14386 Adg14348 Adg1336 Adg52093 Adg52093 Adg52093 Adg57312 Adms7312 Adms7312 A
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                              100.0%; Score 163; DB 5; 100.0%; Pred. No. 1.3e-17;
                                                                                                                                                                                                                                                                                                                                                                                               Allergy vaccines comprise a peptide containing
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          DGGSILKISNKYHTKGDHEVKAEQVKASKEC 31
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                                                                                                                                                                  ALIGNMENTS
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            ABG67106
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ABG66970
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ADR57312
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AEA81084
AEA81085
ABA8731086
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                                                                                                                                                                                                                                                 Bet v 1-derived synthetic peptide #4
                                                                                                                                                                                                       ABB83633 standard; peptide; 31 AA
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Query Match
Best Local Similarity
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                                                                                                                                                                                                                                                                                                                                                                                 WPI; 2002-559804/60.
Sequence 31 AA;
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290.247 Million cell updates/sec
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                                                  April 17, 2006, 09:42:18 ; Search time 46.9282 Seconds
                                                                                                                                                                                                                                                                                                                                                                     GenCore version 5.1.7
Copyright (c) 1993 - 2006 Biocceleration Ltd
                                                                                                                                                Total number of hits satisfying chosen parameters:
                                                                                              1 DGGSILKISNKYHTKGDHEVKAEQVKASKEC
                                                                                                                                 2443163 segs, 439378781 residues
                                                                                                                                                                                                                                                                                                                            SUMMARIES
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                                     OM protein - protein search, using sw model
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ABG67097
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Gapop 10.0 , Gapext 0.5
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1. 1. C. S. S. S.

Result

Betula sp.

ADR87217;

RESULT 2

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The invention relates to novel compositions including contiguous coverlapping peptide fragments which together form an entire amino acid sequence of an allergen, where the fragments are capable of inducing a T-cell response in patients who are hypersensitive to the allergen. The contiguous overlapping peptide fragments further result in lower levels of IgE stimulation activity. The lower levels of IgE stimulation activity. The lower levels of IgE stimulation activity or are zero or weak. The contiguous overlapping peptide fragments further result in a decrease in T-cell response upon subsequent exposure to the allergen, thus, modulating an immune response in the patients, who are hypersensitive to the allergen. A composition of the invention has chypersensitive activity, and may have a use in gene therapy, and as a vaccine. The composition and methods are useful for preventing or treating IgE-mediated allergies. The present sequence represents a chieffin pollen allergens
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           birch pollen; Bet v 1; allergen; T-cell response; IgE; immunoglobulin E;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          New compositions including contiguous overlapping peptide fragments that form an entire amino acid sequence of an allergen (e.g. bee venom or birch pollen allergen), useful for preventing or treating IgE-mediated allergies.
            birch pollen; Bet v 1; allergen; T-cell response; IgE; immunoglobulin E; immune response; antiallergic; gene therapy; vaccine; Bet v 2; profilin.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              94.5%; Score 154; DB 8; Length 153; 100.0%; Pred. No. 2.2e-15; ive 0; Mismatches 0; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Chimeric birch pollen allergen protein SEQ ID NO:21.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               103 DGGSILKISNKYHTKGDHEVKAEQVKASKE 132
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                                                                                                                                                                                           1. .73
/note= "Bet v 2 fragment"
                                                                                                                                                                                                                                                             /note= "Bet v 1 fragment"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Claim 7; SEQ ID NO 19; 82pp; English.
                                                                                                                                                               Location/Qualifiers
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ADR87232 standard; protein; 153 AA.
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                                                                                                                                                                                                                                                                                                                                                                                                                15-MAR-2004; 2004WO-IB001300.
                                                                                                                                                                                                                                                                                                                                                                                                                                                             14-MAR-2003; 2003US-0455004P.
12-MAR-2004; 2004US-00799514.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Sequence 153 AA;
                                                                                                                                                                                                                                                                                                               WO2004081028-A2
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                                                                                        Betula sp.
Chimeric.
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ADR87232
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        The invention relates to novel compositions including contiguous coverlapping peptide fragments which together form an entire amino acid sequence of an allergen, where the fragments are capable of inducing a recall response in patients who are hypersensitive to the allergen. The cell response in patients who are hypersensitive to the allergen. The contiguous overlapping peptide fragments further result in lower levels of Igs stimulation activity. The lower levels of Igs stimulation activity. The lower levels of Igs stimulation activity is a zero or weak. The contiguous overlapping peptide fragments further result in a decrease in T-cell response upon subsequent exposure to the allergen, thus, modulating an immune response in the patients, who are hypersensitive to the allergen. A composition of the invention has antiallergic activity, and may have a use in gene therapy, and as a confosition and methods are useful for preventing or treating Igs-mediated allergies. The present sequence represents a tragment of an allergen of the invention, birch pollen Bet v 1.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      New compositions including contiguous overlapping peptide fragments that form an entire amino acid sequence of an allergen (e.g. bee venom or birch pollen allergen), useful for preventing or treating IgE-mediated
                                                                                                                                                                                                                                                                  birch pollen; allergen; Bet v 1; T-cell response; IgE; immunoglobulin E; immune response; antiallergic; gene therapy; vaccine.
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                                                                                                                                                                                                               Birch pollen allergen Bet v 1 fragment SEQ ID NO:6.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     1 DGGSILKISNKYHTKGDHEVKAEQVKASKE 30
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Claim 2; SEQ ID NO 6; 82pp; English.
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                                                                    ADR87217 standard; protein; 80 AA.
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12-MAR-2004; 2004US-00799514.
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allergies.

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ADR87230;

EXHXYXE

RESULT 3 ADR87230

Query Match Best Loc Matches

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GenCore version 5.1.7
Copyright (c) 1993 - 2006 Biocceleration Ltd.
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OM protein - protein search, using sw model

April 17, 2006, 09:43:45; Search time 15.9282 Seconds (without alignments) 187.261 Million cell updates/sec

Run on:

163 1 DGGSILKISNKYHTKGDHEVKAEQVKASKEC 31 US-10-026-911-4 Perfect score:

Sequence:

Scoring table:

283416 segs, 96216763 residues BLOSUM62 Gapop 10.0 , Gapext 0.5 Searched: Total number of hits satisfying chosen parameters:

Minimum DB seq length: 0 Maximum DB seq length: 2000000000

Post-processing: Minimum Match 0% Maximum Match 100% Listing first 45 summaries

1: pirl:* 2: pir2:* 3: pir3:* 4: pir4:* PIR 80:* Database :

Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

SUMMARIES

Score	Match Length		3 ¦		
154	94.5	160	7	S05376	
145	89.0	160	~	E55699	or pollen
145	89.0	160	~	G55699	or pollen a
145	89.0	160	7	D55699	or pollen
143	87.7	160	7	C55699	or pollen
143	87.7	160	7	F55699	or pollen
143	87.7	160	~	155699	or polle
139	85.3	159	7	847251	1 Sc2
139	85.3	160	~	S47250	1-Sc1 pr
137	84.0	160	~	A57427	r pollen al
137	84.0	160	ď	H55699	pollen
137	84.0	160	N	A55699	or pollen
129	79.1	160	~	B55699	_
115	70.6	160	7	S30055	
115	70.6	160	~	S30053	or allergen
115	70.6	160	~	S30054	allergen
110	67.5	-	~	830056	: allergen
103	63.2		N	S47249	1-Sc3 prot
102	62.6		7	T17005	: allergen
102	62.6		~	T17006	allergen
94	57.7		7	T17007	or allergen
87	53.4		7	T17004	major allergen Mal
80	σ	155	-	SNFB2	hogenesis-re
80	49.1	155	~	T11670	pathogenesis relat
79	•	157	~	S42649	pathogenesis-relat
78	•	94	7	T06417	pathogenesis-relat
77	•	153	~	S51119	
76	•	111	~	T06418	_
91	46.6	158	7	T06527	pathogenesis-relat
	1002 1455 1455 1453 1433 1433 1433 1433 1433			94.5 94.5 94.5 94.5 94.5 97.7 98.0	94.5 94.5 94.5 97.7 97.7 97.7 97.7 98.0

pathogenesis-relat	pathogenesis-relat	major allergen Api	TSI-1 protein - to	major allergen Dau	pathogenesis-relat	stress response ge	disease resistance	major allergen Dau	major root protein	major allergen Dau	pathogenesis-relat	pathogenesis-relat	major allergen Mal	hypothetical prote	STH-2 protein - po
\$52664	SNFB1	S63984	T07403	T14326	T09659	T09526	T06768	T14325	T14322	T14356	T14301	S47140	JC4276	820518	835161
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155	156	154	178	154	157	157	159	154	154	154	168	158	159	158	155
45.4	45.4	44.8	44.8	44.2	44.2	44.2	43.9	42.3	42.3	42.3	42.3	41.7	41.7	40.5	39.3
74	74	73	73	72	72	72	71.5	69	69	69	69	89	68	99	64
30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45

ALIGNMENTS

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major pollen allergen Bet v 1 - European white birch C; Species: Betula pendula (European white birch) C; Species: Betula pendula (European white birch) C; Species: Betula pendula (European white birch) C; Species: Jar-Mar-1990 #sequence revision 31-Mar-1990 #text_change 09-Jul-2004 C; Accession: 805376; JC4834; B51288 R; Breiteneder, H.; Pettenburger, K.; Bito, A.; Valenta, R.; Kraft, D.; Rumpold, H.; Sch R; Britle: The gene coding for the major birch pollen allergen BetvI, is highly homologou A; Reference number: 805376; MUID:90005395; PMID:2571499
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           A; Molecule type: mRNA
A; Residues: 1-160 <-SRES
A; Residues: 1-160 <-SRES
A; Cross-references: UNIPROT: P15494; UNIPARC: UPI0000000314; EMBL: X15877; NID: 917937; PID
R; Kungl, A.J.; Susani, M.; Lindemann, A.; Machius, M.; Visser, A.J.W.G.; Scheiner, O.;
R; Kungl, A.J.; Susani, M.; Lindemann, A.; Machius, M.; Visser, A.J.W.G.; Scheiner, O.;
B; Kungl, A.J.; Susani, M.; Lindemann, A.; Machius, M.; Visser, A.J.W.G.; Scheiner, O.;
A; Kitle: Evidence for an alpha helical T cell epitope in the C-terminus of the main bir
A; Reference number: JC4834; MUID: 96254050; PMID: 8660368
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R;Ipsen, H.; Hansen, O.C.
Mol. Immunol. 28, 1279-1288, 1991
Mol. Immunol. 28, 1279-1288, 1991
A;Title: The NH2-terminal amino acid sequence of the immunochemically partial identical A;Title: The NH2-terminal amino acid sequence of the immunochemically partial identical S) Car b I and oak (Quercus alba) Que a I pollens.
A;Reference number: A53288; MUID:92072607; PMID:1961201
A;Accession: B53288
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A;Note: sequence extracted from NCBI backbone (NCBIP:68408)
A;Note: the source is designated as Betula verrucosa
C;Comment: This protein induces IgE synthesis by B cells in a T cell dependent manner.
C;Superfamily: pathogenesis-related protein
C;Keywords: pollen
C;Keywords: pollen
P;2-160/Product: major pollen allergen Bet v 1 #status experimental <MAT>
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A;Residues: 2-39, XX', 42-44 <IPS>
A;Cross-references: UNIPARC:UPI0000177F58; PID:g239734; PIDN:AAB20452.1
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A,Status: nucleic acid sequence not shown
A,Molecule type: mRNA
A,Residues: 1-160 <KUN>
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110 DGGSILKISNKYHTKGDHEVKAEQVKASKE 139 g

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Gaps

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Length 160; 0; Indels

Query Match 94.5%; Score 154; DB 2; I Best Local Similarity 100.0%; Pred. No. 1.1e-14; Matches 30; Conservative 0; Mismatches 0;

1 DGGSILKISNKYHTKGDHEVKAEQVKASKE 30

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RESULT 2 E55699

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A; Title: Isoforms of Bet v 1, the major birch pollen allergen, analyzed by liquid chrom A;Reference number: A55699; MUID:95155322; PMID:7852325
A;Recession: D55699
A;Residue: L160 < SWO>
A;Residues: 1-160 < SWO>
A;Ross-references: UNIPROT:P43178; UNIPARC:UPIO00016DCF8; EMBL:X77267; NID:g452733; PI: A;Ross-references: UNIPROT:P43178; UNIPARC:UPIO00016DCF8; EMBL:X77267; NID:g452733; PI: C;Superfamily: pathogenesis-related as Betula vertucosa
C;Superfamily: pathogenesis-related protein
C;Keywords: pollen
F;2-160/Product: major pollen allergen Bet v le #status experimental <MAT>
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A;Molecule type: mRNA
A;Residues: 1-160 cSW2>
A;Residues: 1-160 cSW2>
A;Cross-references: UNIPARC:UP1000016DCF7; EMBL:X77270; NID:g452737; PIDN:CAA54486.1; P
A;Note: the source is designated as Betula verrucosa
C;Superfamily: pathogenesis-related protein
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A;Title: Isoforms of Bet v 1, the major birch pollen allergen, analyzed by liquid chrom. A;Reference number: A55699; MUID:95155322; PMID:7852325
A;Accession: F55699
A;Molecule type: mRNA
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A;Title: Isoforms of Bet v 1, the major birch pollen allergen, analyzed by liquid chrom A;Title: Isoforms of Set v 1, the major birch pollen allergen, analyzed by liquid chrom A;Areference number: A55699; MUID:95155322; PMID:7852325
A;Accession: C55699
A;Molecule type: mRNA
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A;Cross-references: UNIPROT:P43177; UNIPARC:UPI000016DCF7; EMBL;X77266; NID:g452731; PII
A;Cross-references: UNIPROT:P43177; UNIPARC:UPI000016DCF7; EMBL;X77266; NID:g452731; PII
A;Note: the source is designated as Betula vertucosa
R;Swoboda, I.; Jilek, A.; Ferreira, F.; Vicente, O.; Hoffman-Sommergruber, K.; Heberle-
submitted to the EMBL Data Library, January 1994
A;Reference number: S41896
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C;Species: Betula pendula (European white birch)
C;Date: 0.1-Dec.1995 #sequence_revision 01-Dec-1995 #text_change 09-Jul-2004
C;Accession: F55699; S41896
R;Swoboda, I.; Jilek, A.; Perreira, F.; Engel, E.; Hoffmann-Sommergruber, K.; Scheiner,
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C;Species: Betula pendula (European white birch)
C;Date: 01-Dec-1995 #sequence revision 01-Dec-1995 #text_change 09-Jul-2004
C;Accession: C55699; 841901; $41898
R;Swoboda, I.; Jilek, A.; Ferreira, F.; Engel, E.; Hoffmann-Sommergruber, K.; Scheiner,
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F;2-160/Product: major pollen allergen Bet v 1d/h #status experimental
F;83/Binding site: carbohydrate (Asn) (covalent) #status absent
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Pred. No. 4.3e-13;
2; Mismatches 1; Indels
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Pred. No. 2.2e-13;
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     Chem. 270, 2607-2613, 1995
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1 Similarity 90.0%;
27; Conservative 2
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90.0%;
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Best Local Similarity 90.0
Matches 27; Conservative
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A;Title: Isoforms of Bet v 1, the major birch pollen allergen, analyzed by liquid chroma A;Title: Isoforms of Bet v 1, the major birch pollen allergen, analyzed by liquid chroma A;Reference number: A55699; MUID:95155322; PMID:7852325

A;Residued C$5669

A;Residues: 1-160 c$MO>

A;Residues: 1-160 c$MO>

A;Cross-references: UNIPROT:P43183; UNIPARC:UPI000016DCFB; EMBL:X77271; NID:g452739; PID
A;Note: the source is designated as Betula verrucosa
A;Note: the source is designated as Betula verrucosa
C;Superfamily: pathogenesis-related protein
C;Superfamily: pollen
F;2-160/Product: major pollen allergen Bet v 1j #status experimental cMAT>
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C;Species: Betula pendula (European white birch)
C;Date: 0.Dec-1995 #sequence_revision 01-Dec-1995 #text_change 09-Jul-2004
C;Accession: D55699; 841899
R;Swoboda, I.; Jilek, A.; Ferreira, F.; Engel, E.; Hoffmann-Sommergruber, K.; Scheiner,
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C;Species: Betula pendula (European white birch)
C;Date: 0.1-Dec-1995 #sequence_revision 01-Dec-1995 #text_change 09-Jul-2004
C;Accession: G55699; S41902
R;Swoboda, I.; Jilek, A.; Ferreira, F.; Engel, E.; Hoffmann-Sommergruber, K.; Scheiner,
major pollen allergen Bet v 1f/i - European white birch (Species: Betula pendula (European white birch) (Cispecies: Betula pendula (European white birch) (Cibate: 01-Dec-1995 #sequence revision 01-Dec-1995 #text_change 09-Jul-2004 (Ciscession: E55699; S41905; S41900 (Ciscession: E55699; S41905; S41900 (Ciscession: E55699; A1905; S41906) (Ciscession: E55699; A1905; S41906) (Ciscession: E55699; A1906) (Ciscession: E56699; A1906) (Ciscession: E56699) (Ciscession: E56699; A1906) (Ciscession: E56699) (Ciscession: E56699) (Ciscession: E56699) (Ciscession: E56699
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Pred. No. 2.2e-13;
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TISSUE-POLIEN:
MEDLINE-9115322; PubMed=7852325; DOI=10.1074/jbc.270.6.2607;
MEDLINE-9115322; PubMed=7852325; DOI=10.1074/jbc.270.6.2607;
MEDLINE-9115322; PubMed=7852325; DOI=10.1074/jbc.270.6.2607;
Scheiner O., Kraft D., Breiteneder H., Pittenauer E., Schmid E.,
Vicente O., Heberle-Bors E., Ahorn H., Breitenbach M.;
Tisoforms of Bet v 1, the major birch pollen allergen, analyzed by
liquid chromatography, mass spectrometry, and cDNA cloning.";
J. Biol. Chem. 270:2607-2613(1995).
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MEDLINE=91317572; PubMed=2101127;
Elsayed S., Vik H.;
Elsayed S., Vik H.;
"Purification and N.terminal amino acid sequence of two birch pollen isoallergens (Bet v I and Bet v II).";
Int. Arch. Allergy Appl. Immunol. 93:378-384(1990).
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             MEDLINE=90005395; PubMed=2571499;
Breiteneder H., Pettenburger K., Bito A., Valenta R., Kraft D., Rumpold H., Scheiner O., Breitenbach M.;
"The gene coding for the major birch pollen allergen Betvl, is homologous to a pea disease resistance response gene.";
EMBO J. 8:1935-1938(1989).
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Submitted (SEP-1996) to the EMBL/GenBank/DDBJ databases
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Betula verrucosa (White birch) (Betula pendula)
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09AYS2 9ROSI
09AYS3 9ROSI
09AYS4 9ROSI
09SCH5 BETVE
09SCI0 BETVE
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Nat. Struct. Biol. 3:1040-1045(1996).
-!- SUBCELLULAR LOCATION: Cytoplasmic.
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TISSUE=Pollen;
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Copyright (c) 1993 - 2006 Biocceleration Ltd.
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Spermatophyta; Magnoliophyta; eudicotyledons; core eudicotyledons; rosids; eurosids I; Fagales; Betulaceae; Betula.
NCBI_TaxID=3505;
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Bukaryota; Viridiplantae; Streptophyta; Embryophyta; Tracheophyta;
Spermatophyta; Magnoliophyta; eudicotyledons; core eudicotyledons;
rosids; eurosids I; Fagales; Betulaceae; Betula.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Length 159;
                                                                                                                 Cvitanich C., Larsen J.N.;
Submitted (SEP-1997) to the EMBL/GenBank/DDBJ databases.
EMBL; AJ001555; CAA404827.1; -; Genomic_DNA.
HSSP; P15494; 11159.
SMR; O23748; 11159.
GO; GO:0006952; P:Gefense response; IEA.
InterPro; IRR000316; Bet v. I.
Pfam; PF00407; Bet V I; I.
PRINTS; PR00634; BETALLERGEN.
PRODOM; PD0000531; Bet V_I; 1.
PROSITE; PS00451; PATHOGENESIS; BETVI; 1.
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Submitred (SEP-1997) to the EMBL/GenBank/DDBJ databases.
EMBL; AJ001553; CAA04825.1; -; Genomic DNA.
Pathogenesis-related protein; Plant defense.
                                                                                                                                                                                                                                                                                                                                                              159 AA; 17318 MW; E4A52944075407CE CRC64;
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Last sequence update)
Last annotation update)
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13-SEP-2005 (TrEMBLrel. 31, Last sequence update)
13-SEP-2005 (TrEMBLrel. 31, Last annotation update)
Pollen allergen, Betv1 (Fragment).
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100.0%; Pred. No. 1.7e-13;
ive 0; Mismatches 0;
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Pred. No. 1.7e-13;
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                                                                                                                                                                                                                                                                                                                                                                                                     94.5%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Q546V0_BETVE PRELIMINARY;
Q546V0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       O24642 BETVE PRELIMINARY;
024642;
                                                                                                                                                                                                                                                                                                                                                                                                                      Best Local Similarity 100.
Matches 30; Conservative
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NUCLEOTIDE SEQUENCE.
                                                                                  NUCLEOTIDE SEQUENCE.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  NCBI_TaxID=3505;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     TISSUE=Leaves;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Name=Betv1;
                                                                                                                                                                                                                                                                                                                                                                SEQUENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     SEQUENCE
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024642 BE
1D 0246
AC 0246
DT 01-J
DT 01-J
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                                                                                This Swiss-Prot entry is copyright. It is produced through a collaboration between the Swiss Institute of Bioinformatics and the EMBL outstation - the Buropean Bioinformatics Institute. There are no restrictions on its use as long as its content is in no way modified and this statement is not
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ö
         -!- ALLERGEN: Causes an allergic reaction in human. Is a cause of type I allergic reactions in Europe, North America and USSR. -!- SIMILARITY: Belongs to the BetVI family.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                3D-structure; Allergen; Direct protein sequencing; Multigene family; Pathogenesis-related protein; Plant defense.

0 0 0 0 VARIĀNT 62 62 F -> 1.
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Namea-Betv1.
Betula verrucosa (White birch) (Betula pendula).
Bukaryota, Viridiplantae, Streptophyta, Embryophyta, Tracheophyta;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ;
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100.0%; Pred. No. 1.7e-13;
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01-JAN-1998 (TrEMBLrel. 05, Last sequence update)
01-JUN-2003 (TrEMBLrel. 24, Last annotation update)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           159 AA.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                            ProDom; PD000531; Bet_v_I; 1.
PROSITE; PS00451; PATHOGENESIS_BETVI; 1.
                                                                                                                                                                                             EMBL; X15877; CAA33887.1; -; mENA.
EMBL; Z80098; CAB02153.1; -; mENA.
EMBL; Z80099; CAB02154.1; -; mENA.
EMBL; Z80104; CAB02159.1; -; mENA.
                                                                                                                                                                                                                                                                                    PDB; 1BGF; NMR; A=1-159.
PDB; 1BTV; NTR; Ø=1-159.
PDB; 1BVY; X-ray; @=1-159.
PDB; 1EKX; X-ray; A=1-159.
PDB; 1LLT; X-ray; A=1-159.
PDB; 1QKR; X-ray; A=1-159.
PDB; 1QKR; X-ray; A=1-159.
PDB; 1QKR; X-ray; A=1-159.
PDB; 1QKR; X-ray; A=1-159.
PRINTS; PPRO0634; BETALLERGEN.
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O23748;
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BETVE
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PDB;
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GENERAL INCURRATION:
APPLICANT: Breiteneder, Heimo APPLICANT: Raikerstorfer, Arnold APPLICANT: Walenta, Rudolf APPLICANT: Valenta, Rudolf APPLICANT: Walender, Michael APPLICANT: Walethanh, Michael APPLICANT: Kraft, Dietrich APPLICANT: Kraft, Dietrich APPLICANT: Rumpold, Helmut APPLICANT: Scheiner, Otto APPLICANT: Scheiner, Christof APPLICANT: Ebner, Christof APPLICANT: Ferreira, Fatima TITLE OF INVENTION: Allergens of Alder Pollen and TITLE OF INVENTION: Applications Thereof NUMBER OF SEQUENCES: 23
CORRESPONDENCE ADDRESS: ADDRESSE: Pennie & Edmonds STREET: 1155 Avenue of the Americas CITY: New York STATE: New York 
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Sequence 23, Application US/07847010; Patent No. 5693495; GENERAL INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       TELERAX: (212) ev. -
TELER: 66141 PENNIE
INFORMATION FOR SEQ ID NO: 23:
SEQUENCE CHARACTERISTICS:
LENGTH: 160 amino acids
TYPE: amino acid
TYPE: amino acid
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HYPOTHETICAL: NO
ORIGINAL SOURCE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        US-07-847-010-23
Sequence 4237, Apple Sequence 53, Appl Sequence 6, Appli Sequence 6, Appli Sequence 2, Appli Sequence 2, Appli Sequence 2, Appli Sequence 6, Appli Sequence 62057, Appli Sequence 11, Appli Sequence 11, Appli Sequence 11, Appli Sequence 11, Appli Sequence 128, Appli Sequence 12
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Sequence 14, Appl
Sequence 17, Appl
Sequence 20, Appl
Patent No. 5312912
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Sequence 1, Appli
Sequence 4, Appli
Sequence 3, Appli
Sequence 4, Appli
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Sequence 3, Appli
                                                                                                                                                                                                              April 17, 2006, 09:44:15; Search time 24.4917 Seconds (without alignments) 104.645 Million cell updates/sec
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                                 GenCore version 5.1.7
Copyright (c) 1993 - 2006 Biocceleration Ltd
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               /cgn2_6/ptodata/1/jaa/5_COMB.pep:*
/cgn2_6/ptodata/1/jaa/6_COMB.pep:*
/cgn2_6/ptodata/1/jaa/H_COMB.pep:*
/cgn2_6/ptodata/1/jaa/PCTUS_COMB.pep:*
/cgn2_6/ptodata/1/jaa/RE_COMB.pep:*
/cgn2_6/ptodata/1/jaa/RE_COMB.pep:*
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US-07-847-010-3

US-07-847-010-11

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US-07-847-010-20

5312912-2

US-08-944-722-2

US-08-944-722-2

US-08-914-734A-4

US-08-914-734A-4

US-09-192-353-4

US-09-192-353-4

US-09-213-229-6

US-09-213-229-6

US-09-949-016-9654

US-09-949-016-9654

US-09-949-016-9654

US-09-949-016-9654

US-09-949-016-9654

US-09-949-016-9654

US-09-949-016-9654

US-09-949-016-9654

US-09-949-459-2

US-09-949-459-2

US-09-949-459-4

US-09-107-433-4485

US-09-107-433-4485

US-09-107-433-4485

US-09-270-767-6218
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1 DGGSILKISNKYHTKGDHEVKAEQVKASKEC 31
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Total number of hits satisfying chosen parameters:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 572060 segs, 82675679 residues
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Maximum Match 100%
Listing first 45 summaries
                                                                                                                                                               OM protein - protein search, using sw model
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Gapop 10.0 , Gapext 0.5
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Maximum DB seq length: 200000000
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Match Length
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US-08-169-927-2
US-09-457-040B-14
US-09-553-9918-29174
US-08-563-524A-2
US-09-518-092-335
US-09-518-092-335
US-08-803-972-7
US-08-803-972-12
US-08-803-972-12
US-08-803-972-12
US-08-803-972-12
US-08-803-972-12
US-08-803-972-12
US-08-803-972-12
US-08-803-972-12
US-08-803-973-2
US-09-268-347-38
US-09-268-347-38
US-09-268-347-38
US-09-268-347-38
US-09-268-347-38
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Query Match
70.6%; Score 115; DB 1; Length 160;
Best Local Similarity 69.0%; Pred. No. 2e-09;
Matches 20; Conservative 6; Mismatches 3; Indels
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                                                                                                                                                                                                                                                                        APPLICANT: Hoffmann - Sommergruber, Karin APPLICANT: Breitenbach, Michael APPLICANT: Breitenbach, Michael APPLICANT: Breitenbach, Michael APPLICANT: Rumpold, Helmut APPLICANT: Scheiner, Otto APPLICANT: Scheiner, Otto APPLICANT: Bener, Christof APPLICANT: Ferreira, Fatima TITLE OF INVENTION: Allergens of Alder Pollen and TITLE OF INVENTION: Applications Thereof NUMBER OF SEQUENCES: 23 CORRESPONDENCE ADDRESS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          CURRENT APPLICATION DATA:
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/07/847,010
FILING DATE: 01-JUN-1992
CLASSIFICATION: 435
ATTORNEY/AGENT INFORMATION:
NAME: JONE III, HARTY C
REGISTRATION NUMBER: 20,280
REFERENCE/DOCKET NUMBER: 6530-010
TELECOMMUNICATION INFORMATION:
TELECOMMUNICATION INFORMATION:
TELECOMMUNICATION INFORMATION:
TELEPAX: (212) 790-9090
TELEPAX: (212) 869-9741/8864
                                                                                                                                                                 GENERAL INFORMATION:
GENERAL INFORMATION:
GENERAL Breiteneder, Heimo
APPLICANT: Reikerstorfer, Arnold
APPLICANT: Valenta, Rudolf
APPLICANT: Volenta, Rudolf
APPLICANT: Hoffmann - Sommergruber, Karin
110 DGGSILKISNKFHTKGDHEINAEQIKIEKE 139
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ADDRESSEE: Pennie & Edmonds
STREET: 1155 Avenue of the Americas
CITY: New York
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ZIP: 10036-2711
COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ; Sequence 14, Application US/07847010; Patent No. 5693495; GENERAL INFORMATION: APPLICANT: Breiteneder, Heimo
                                                                                                                 Sequence 11, Application US/07847010
Patent No. 5693495
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ORGANISM: hazel (Corylus sp.) IMMEDIATE SOURCE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        TELEX: 66141 PENNIE
INFORMATION FOR SEQ ID NO: 11:
SEQUENCE CHARACTERISTICS:
LENGTH: 160 amino acids
TYPE: amino acid
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    TOPOLOGY: linear
MOLECULE TYPE: peptide
HYPOTHETICAL: NO
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           STATE: New York
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              COUNTRY: U.S.A. ZIP: 10036-2711
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      HYPOTHETICAL: NORIGINAL SOURCE
                                                                       RESULT 3
US-07-847-010-11
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US-07-847-010-14
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셤
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                                                                                                                         Query Match 94.5%; Score 154; DB 1; Length 160; Best Local Similarity 100.0%; Pred. No. 3e-15; Matches 30; Conservative 0; Mismatches 0; Indels
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                          IMMEDIATE SOURCE:
LIBRARY: POLLEN FROM ALLERGON AB, ENGELHOLM, SWEDEN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       APPLICANT: Reikerstorfer, Arnold
APPLICANT: Valenta, Rudolf
APPLICANT: Valenta, Rudolf
APPLICANT: Hoffmann - Sommergruber, Karin
APPLICANT: Breitenbach, Michael
APPLICANT: Kraft, Dietrich
APPLICANT: Rumpold, Helmut
APPLICANT: Schainer, Otto
APPLICANT: Ebner, Christof
APPLICANT: Ebner, Christof
APPLICANT: Ferreira, Fatima
TITLE OF INVENTION: Albergens of Alder Pollen and
TITLE OF INVENTION: Applications Thereof
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             SOFTWARE: Patentin Release #1.0, Version #1.25
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/07/847,010
FILING DATE: UJ-UN-1992
CLASSIFICATION: 435
ATTORNEY/AGENT INFORMATION:
NAME: JOHG FILIT, HARTY C
REGISTRATION NUMBER: 20,280
REFERENCE/DOCKET NUMBER: 6530-010
                                                                                                                                                                                                                                                              110 DGGSILKISNKYHTKGDHEVKAEQVKASKE 139
                                                                                                                                                                                                                                 1 DGGSILKISNKYHTKGDHEVKABQVKASKE 30
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ADDRESSEE: Pennie & Edmonds
STREET: 1155 Avenue of the Americas
CITY: New York
STATE: New York
COUNTRY: U.S.A.
ZIP: 10036-7711
COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC COMpatible
OPERATING SYSTEM: PC-DOS/MS-DOS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Sequence 3, Application US/07847010 Patent No. 5693495 GENERAL INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      TELEFAX: (212) 869-9741/8864
TELEX: 66141 PENNIE
INFORMATION FOR SEQ ID NO: 3:
SEQUENCE CHARACTERISTICS:
ORGANISM: birch (Betula sp.)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ORIGINAL SOURCE:
ORGANISM: Alder (Alnus sp.)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Breiteneder, Heimo
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   TELECOMMUNICATION INFORMATION TELEPHONE: (212) 790-9090
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          LENGTH: 160 amino acids
TYPE: amino acid
TOPOLOGY: linear
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          TITLE OF INVENTION: Al
TITLE OF INVENTION: AD
NUMBER OF SEQUENCES: 2
CORRESPONDENCE ADDRESS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     MOLECULE TYPE: peptide HYPOTHETICAL: NO
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US-07-847-010-23
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US-07-847-010-3
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Sequence

Sequence 10,

Sequence Sequence Sequence Sequence Sequence 46, Sequence 19,

Sequence 45,

Sequence

Sequence Sequence

OM protein

Run on:

Sequence:

Searched:

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RESULT 2
US-10-799-514-6
; Sequence 6, Application US/10799514
; Sequence 6, Application US/10799514
; Publication No. US20040241178A1
; GENERAL INFORMATION:
; APPLICANT: Spertini, Francois
; APPLICANT: Corthesy, Blaise
; TITLE OF INVENTION: Allergen Peptide Fragments and Use Thereof
; FILE REFERENCE: 25720-502
; CURRENT APPLICATION NUMBER: US/10/799,514
; CURRENT FILING DATE: 2004-03-12
; PRIOR APPLICATION NUMBER: 60/455,004
; RIOR APPLICATION NUMBER: 2003-03-14
; NUMBER OF SEQ ID NOS: 2.1
; SOFTWARE: PatentIn Ver: 2.1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          APPLICANT: Focke, Margarete
APPLICANT: Mahler, Vera
APPLICANT: Sperr, Wolfgang R.
APPLICANT: Valent, Peter
APPLICANT: Valent, Peter
APPLICANT: Valenta, Rudolf
TILE REFERENCE: 0273-0005
CURRENT APPLICATION NUMBER: US/10/026,911
CURRENT APPLICATION NUMBER: 2002-07-24
NUMBER OF SEQ ID NOS: 6
SOFFWARE: Patentin Ver. 2.1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               OTHER INFORMATION: Description of Artificial Sequence: OTHER INFORMATION: solvent-exposed peptide
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                100.0%; Score 163; DB 4;
llarity 100.0%; Pred. No. 1.5e-16;
Conservative 0; Mismatches 0;
US-10-440-516-8
US-09-847-208-36
US-09-847-208-39
US-09-847-208-42
US-10-001-245-8
US-10-001-245-10
US-10-001-245-11
US-10-40-16-12
US-10-440-516-5
US-10-440-516-13
US-10-440-516-13
US-10-440-516-13
US-10-440-516-13
US-10-440-516-44
US-10-440-516-44
US-10-440-516-45
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               SEQ ID NO 4
LENGTH: 31
TYBE: PR
ORGANISM: Artificial Sequence
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159
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Matches 31; Conserv
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342.204 Million cell updates/sec
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Sequence 21, 1
Sequence 1, A
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Sequence 38,
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                                                                                                                                                   April 17, 2006, 10:01:54; Search time 37.8508 Seconds
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Sequence 3
Sequence 5
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Sequence
Sequence
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1: /cgn2_6/ptodata/1/pubpaa/US07_PUBCOMB.pep: *
2: /cgn2_6/ptodata/1/pubpaa/US08_PUBCOMB.pep: *
3: /cgn2_6/ptodata/1/pubpaa/US08_PUBCOMB.pep: *
4: /cgn2_6/ptodata/1/pubpaa/US10A_PUBCOMB.pep: *
5: /cgn2_6/ptodata/1/pubpaa/US10B_PUBCOMB.pep: *
6: /cgn2_6/ptodata/1/pubpaa/US11_PUBCOMB.pep: *
6: /cgn2_6/ptodata/1/pubpaa/US11_PUBCOMB.pep: *
                           GenCore version 5.1.7
Copyright (c) 1993 - 2006 Biocceleration Ltd.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          US-10-026-911-4

US-10-799-514-6

US-10-799-514-19

US-10-799-514-219

US-09-981-0098-1

US-09-987-068-3

US-09-987-068-3

US-10-001-245-5

US-10-001-245-5

US-10-001-245-5

US-10-001-245-1

US-10-440-516-3

US-10-440-516-3

US-10-440-516-3

US-10-440-516-3

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US-10-440-516-3

US-09-847-208-38
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Maximum Match 100%
Listing first 45 summaries
                                                                                                              - protein search, using sw model
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Gapop 10.0 , Gapext 0.5
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Maximum DB seq length: 200000000
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                                                                                                                                                                                                                                 US-10-026-911-4
163
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Match Length
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Result No.

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Length 31; Indels

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RESULT 5
US-09-981-009B-1
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US-09-957-806A-6
      US-10-799-514-21
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US-10-799-514-19
is Sequence 19, Application US/10799514
j Publication No. US20040241178A1
j GENERAL INFORMATION:
i APPLICANT: Spertini, Francois
j APPLICANT: Spertini, Francois
j APPLICANT: Cortheby, Blaise
i TITLE OF INVENTION: Allergen Peptide Fragments and Use Thereof
j FILE REFREENCE: 25720-502
j CURRENT APPLICATION NUMBER: US/10/799,514
j CURRENT FILING DATE: 2004-03-12
j RIOR FILING DATE: 2004-03-14
j NUMBER OF SEQ ID NOS: 23
j SOFTWARE: PatentIn Ver. 2.1
j SEQ ID NO 19
j TENETHEREOF SECOND 19
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                                                                                                             OTHER INFORMATION: Description of Artificial Sequence: Synthetic OTHER INFORMATION: Peptide
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; OTHER INFORMATION: Description of Artificial Sequence: Synthetic
; OTHER INFORMATION: Peptide
US-10-799-514-19
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Publication No. US20040241178A1
GENERAL INFORMATION:
APPLICANT: Spertini, Francois
APPLICANT: Corthesy, Blaise
TITLE REFERENCE: 2570-502
CURRENT APPLICATION NUMBER: US/10/799,514
CURRENT FILING DATE: 2004-03-12
PRIOR FILING DATE: 2003-03-14
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Query Match 94.5%; Score 154; DB 5; Length 153; Best Local Similarity 100.0%; Pred. No. 1.9e-14; Matches 30; Conservative 0; Mismatches 0; Indels
                                                                                                                                                                                                     Query Match 94.5%; Score 154; DB 5; Length 80; Best Local Similarity 100.0%; Pred. No. 9.1e-15; Matches 30; Conservative 0; Mismatches 0; Indels
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SOFTWARE: Patentin Ver. 2.1
SEQ ID NO 21
TYPE: PRT
ORGANISM: Artificial Sequence
; SEQ ID NO 6
; LENGTH: 80
; TYPE: PRT
; ORGANISM: Artificial Sequence
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US-10-799-514-21
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94.5%; Score 154; DB 5; Length 153; 100.0%; Pred. No. 1.9e-14; ive 0; Mismatches 0; Indels
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.-. 0; Indels
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            GENERAL INFORMATION:
APPLICANT: Saxon, Andrew
APPLICANT: Zhang, Ke
APPLICANT: Zhu, Daocheng
TITLE OF INVENTION: FUSION MOLECULES AND TREATMENT OF
TITLE OF INVENTION: IGE-MEDIATED ALLERGIC DISEASES
FILE REFERENCE: UC67.002A
                                                                                                                                                                                                                                         | Sequence 1, Application US/09981009B | Publication No. US20030041354A1 | GENERAL INFORMATION: APPLICANT: Regent, Erwin | TITLE OF INVENTION: Transgenic Plants | FILE REFERENCE: 10082.200-US; CURRENT APPLICATION NUMBER: US/09/981,009B | CURRENT PILING DATE: 2002-06-14 | NUMBER OF SEQ ID NOS: 5 | SOFTWARE: Patentin version 3.1 | SEQ ID NO 1 | LENGTH: 159
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         109 DGGSILKISNKYHTKGDHEVKAEQVKASKE 138
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                                                                                                                    30 DGGSILKISNKYHTKGDHEVKAEQVKASKE 59
                                                                                        1 DGGSILKISNKYHTKGDHEVKAEQVKASKE 30
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CURRENT FILING DATE: 2001-05-01
NUMBER OF SEQ ID NOS: 177
SOFTWARE: FastSEQ for Windows Version 4.0
SEQ ID NO 34
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          RESULT 6
US-09-847-208-34
; Sequence 34, Application US/09847208
; Publication No. US20030082190A1
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    Query Match
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Matches 30; Conservative
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Matches 30; Conservative
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1: /SIDSS/ptcdata/1/pubpaa/USO8 NEW FUB.pep:*

2: /SIDSS/ptcdata/1/pubpaa/USO7 NEW FUB.pep:*

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8: /SIDSS/ptcdata/1/pubpaa/USI1_NEW_FUB.pep:*
GenCore version 5.1.7
Copyright (c) 1993 - 2006 Biocceleration Ltd
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1 DGGSILKISNKYHTKGDHEVKAEQVKASKEC 31
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Maximum Match 100%
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Gapop 10.0 , Gapext 0.5
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Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

Sequence 6, Appli Sequence 30, Appl Sequence 30, Appl Sequence 183, App Sequence 10856, A Sequence 10856, A Sequence 10856, A Sequence 10856, A Sequence 13, Appli Sequence 4, Appli Sequence 2, Appli Sequence 6672, Ap Sequence 112, App Sequence 112, App Sequence 8464, Ap Sequence 7578, Ap Sequence 81, R Sequence 18, R Sequence 26, R Description Sequence 1 Sequence 1 Sequence 4 Sequence Sequence Sequence US-10-498-026-81 US-11-102-883-18 US-11-102-883-26 US-11-102-883-32 US-11-102-883-32 US-11-102-883-30 US-10-957-807B-183 US-11-096-568A-10855 US-11-096-568A-10855 US-11-096-568A-10855 US-11-096-568A-10855 US-11-096-568A-10855 US-11-095-584-10855 US-11-052-3-312-4 US-10-523-912-4 US-10-523-912-4 US-11-079-463-6672 US-11-079-463-6672 US-11-079-464 US-11-087-099-9453 US-11-087-099-8454 US-11-087-099-8555 US-11-087-099-8555 US-11-087-099-8555 US-11-087-099-8555 US-11-087-099-8555 SUMMARIES Query Match Length DB 47.5 Result No.

26, Appl 6, Appli 32, Appl 30, Appl

10232, A 5764, Ap

Sequence

App1

177	Sequence 535, App Sequence 534. App	4,	38	Sequence 3845, Ap	Sequence 3844, Ap	Sequence 23357, A	Sequence 23356, A	2335	Sequence 38, Appl	Sequence 410, App	Sequence 12363, A	Sequence 6188, Ap		Sequence 194, App	Sequence 30718, A	Sequence 30717, A	Seguence 1192, Ap
11-188- 10-793-	US-10-995-561-535 IIS-10-995-561-534	US-11-186-284-4	US-11-096-568A-3846	US-11-096-568A-3845	US-11-096-568A-3844	US-11-096-568A-23357	US-11-096-568A-23356	US-11-096-568A-23355	US-10-873-528-38	US-10-454-437-410	US-11-087-099-12363	US-11-079-463-6188	US-11-087-099-4407	US-10-873-528-194	US-11-096-568A-30718	US-11-096-568A-30717	US-11-172-740-1192
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26 27	58	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45

ALIGNMENTS

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GENERAL INFORMATION:
APPLICANT: Lamping, Norbert
APPLICANT: Crameri, Reto
APPLICANT: Fluckiger, Sabina
APPLICANT: Fluckiger, Sabina
APPLICANT: Fluckiger, Sabina
APPLICANT: Pluckiger, Sabina
APPLICANT: Daigle, Isabelle
TITLE OF INVENTION: Modular Antigen Transporter Molecules (MAT Molecules) for
TITLE OF INVENTION: Uses Thereof
TITLE OF INVENTION: Uses Thereof
FILE REFERENCE: 03100234pa
CURRENT APPLICATION NUMBER: US/11/102,883
CURRENT APPLICATION NUMBER: EP02022774.0
PRIOR APPLICATION NUMBER: EP02022774.0
PRIOR APPLICATION NUMBER: PCT/EP2003/011190
PRIOR APPLICATION NUMBER: PCT/EP2003/011190
NRIGER APPLICATION NUMBER: 2003-10-09
NUMBER OF SEQ ID NOS: 44
SOFTWARE: Patentin version 3.2
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Publication No. US20060024334A1
GENERAL INFORMATION:
TATLE OF INVENTION: IMMUNOTHERAPEUTIC METHODS AND SYSTEMS;
FILE REPERENCE: N.87430 WO GCW
CURRENT APPLICATION NUMBER: US/10/498,026
CURRENT PILING DATE: 2004-06-04
NUMBER OF SEQ ID NOS: 118
SOFTWARE: Patentin version 3.1
SEQ ID NO 81
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; Sequence 18, Application US/11102883
; Publication No. US20050281816A1
; GENERAL INFORMATION:
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; TYPE: PRT
; ORGANISM: Betula pendula
US-10-498-026-81
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Best Local Similarity
RESULT 1
US-10-498-026-81
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RESULT 5

US-11-102-883-32

Sequence 32, Application US/11102883

Sequence 32, Application Would Sequence 32, Application No. US20050281816A1

GENERAL INFORMATION:

APPLICANT: Lamping, Norbert

APPLICANT: Lamping, Norbert

APPLICANT: Eluckiger, Sabina

APPLICANT: Daigle, Isabelle

TITLE OF INVENTION: Modular Antigen Transporter Molecules (MAT Molecules) for

TITLE OF INVENTION: Modularing Immune Reactions, Associated Constructs, Methods and

TITLE OF INVENTION: Uses Thereof

FILE REFERENCE: 03100234pa

CURRENT APPLICATION NUMBER: EP02022774.0

PRIOR FILING DATE: 2005-04-111

PRIOR PILING DATE: 2003-10-09

NUMBER OF SEQ ID NOS: 44

SOFTWARE: Patentin version 3.2

SEQ ID NO 32

LENGTH: 283
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; Sequence 30, Application US/11102883
; Publication No. US2005281816A1
; GENERAL INPORMATION:
APPLICANT: Lamping, Norbert
APPLICANT: Lamping, Norbert
APPLICANT: Daigle, Isabelle
TITLE OF INVENTION: Modulating Immune Reactions, Associated Constructs, Methods an
TITLE OF INVENTION: Uses Thereof
FILE REFERENCE: 03100234pa
CURRENT FAPILICATION NUMBER: US/11/102,883
CURRENT FILING DATE: 2002-10-11
PRIOR APPLICATION NUMBER: PCT/EP2003/011190
PRIOR PILING DATE: 2003-10-09
NUMBER OF SEQ ID NOS: 44
SOFTWARE: PatentIn version 3.2
SEQ ID NO 30
LENGTH: 294
; TYPE: PRT
; ORGANISM: Human immunodeficiency virus + Homo sapiens + Betula verrucosa
US-11-102-883-6
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94.5%; Score 154; DB 7; 1
Best Local Similarity 100.0%; Pred. No. 2.3e-15;
Matches 30; Conservative 0; Mismatches 0;
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44.8%; Score 73; DB 7;
Best Local Similarity 50.0%; Pred. No. 0.0028;
Matches 15; Conservative 4; Mismatches 11
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US-11-102-883-32
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Sequence (A. Application US/11102883)
Sequence (A. Application US/20000281816A1
Sequence (A. Application No. US20000281816A1
GENERAL INFORMATION:
APPLICANT: Lamping, Norbert
APPLICANT: Crameri, Reto
APPLICANT: Pluckiger, Sabina
APPLICANT: Paigle, Isabelle
TITLE OF INVENTION: Modular Antigen Transporter Molecules (MAT Molecules) for
TITLE OF INVENTION: Uses Thereof
TITLE OF INVENTION NUMBER: US/11/102,883
CURRENT APPLICATION NUMBER: EP02022774.0
PRIOR FILING DATE: 2002-10-11
PRIOR PLING DATE: 2003-10-09
NUMBER OF SEQ ID NOS: 44
SOCTIANS: PATENTIN VERSION 3.2
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94.5%; Score 154; DB 7; Length 289;
Best Local Similarity 100.0%; Pred. No. 2.2e-15;
Matches 30; Conservative 0; Mismatches 0; Indels
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                                                                      ORGANISM: Betula verrucosa
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US-11-102-883-26
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LENGTH: 289
TYPE: PRT
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    ; SEQ ID NO 18
; LENGTH: 172
; TYPE: PRT
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US-11-102-883-6
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Chimeric
Wild type
Major pol
Birch all
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GenCore version 5.1.7
Copyright (c) 1993 - 2006 Biocceleration Ltd.
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160
1 CKAEQVKASKEMGETLLRAVESYLLAHSDAYN 32
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Maximum Match 100%
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Perfect score:
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No.
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Birch Birch Birch

ABG67102 ABG66958 ABG67101 ABG67105 ABG67105 ABG66965 ABG67099

Abg66963 Birch all Abg67098 Birch all Abg67094 Birch all Abg67094 Birch all Abg18185 Birch pol Adf51233 Bet v 1 a Aar2196 Bet v 1 a Aar25649 Betula sp Abg66970 Birch all Adf51168 Bet v 1 a Adf1168 Birch pol Adf51168 Birch pol Adf51218 Birch pol Adf51218 Birch pol Adf51312 Modular a Ad81364 Birch pol Ad852093 Birch pol Ad81364 Birch pol Ad81364 Birch pol Ad81364 Birch pol Ad81366 Birch pol Ad81366 Birch pol Ad81368 Birch pol Ad81086 Grass/Bir Aea81086 Grass/Bir Aea81086 Birch/Gra													Valenta R;		50 amino acids.		ontaining ergic diseases. The synthetic peptide,		Length 32; Indels 0; Gaps 0;		
ABG66963 ABG67098 ABG67106 ABG67106 ABB84185 AAB84185 AAR21796 AAR21796 AAR21796 AAR21796 AAR21168 ADG14386 ADG14386 ADG14386 ADG14386 ADG14386 ADG14386 ADG14386 ADG14386 ADG14386 ADG14386 ADG14386 ADG14386 ADG14386 ADG14386 ADG14386 ADG14386 ADG1084	ALIGNMENTS	32 AA.			peptide #5.	ved peptide; allergy.							WR, Valent P, Kraft D,		peptide containing 8 to	English.	relates to a new composition containing useful in the treatment of allergic diseases non-allergenic Bet v 1-derived synthetic pep ¹ 1-specific human T-cells		Score 160; DB 5; Pred. No. 6.3e-17; 0; Mismatches 0;	CKAEQVKASKEMGETLLRAVESYLLAHSDAYN 32	VESYLLAHSDAYN 32
1159 5 5 1159 6		peptide;		entry)	synthetic pe	v 1-deri				2000EP-00128659	-00128659	S MBH.	Sperr W		comprise a	27pp; Eng	on relates es useful : an non-alle v 1-specis		100.0%; 100.0%; ative	EMGETLLR	EMGETLLR
		standard;		2 (first	rived	enic; Bet		A1.	2.	; 0	0; 2000EP	SHAN BET-GES	Mahler V,	559804/60	vaccines co	Page 6;	The present invention antiallergic peptides upresent peptide is an invhich stimulate Bet v	2 AA;	n Similarity 32; Conserv	KAEQVKASK	KAEQVKASK
151 151 151 151 151 151 151 151 151 151		83634	ABB83634;	0-OCT-2002	Bet v 1-de	Non-allerg	Synthetic.	EP1219299-A1	3-JUL-200;	28-DEC-200	28-DEC-2000	(SHAN-) SH	ocke M,	PI; 2002-	Allergy va	Example 1;	he presen ntiallerg resent pe hich stim	Sequence 3	al la	г П	-0
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16-DEC-2004

ADR87217;

RESULT 2 ADR87217

23-SEP-2004

Betula sp.

Spertini F;

allergies.

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The invention relates to novel compositions including contiguous overlapping peptide fragments which together form an entire amino acid sequence of an allergen, where the fragments are capable of inducing a T-cell response in patients who are hypersensitive to the allergen. The contiguous overlapping peptide fragments further result in lower levels of Igs stimulation activity. The lower levels of Igs stimulation activity are zero or weak. The contiguous overlapping peptide fragments further result in a decrease in T-cell response upon subsequent exposure to the allergen, thus, modulating an immune response in the patients, who are hypersensitive to the allergen. A composition of the invention has antiallergic activity, and may have a use in gene therapy, and as a vaccine. The composition and methods are useful for preventing or
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            New compositions including contiguous overlapping peptide fragments that form an entire amino acid sequence of an allergen (e.g. bee venom or birch pollen allergen), useful for preventing or treating IgB-mediated
                   birch pollen; Bet v 1; allergen; T-cell response; IgE; immunoglobulin E; immune response; antiallergic; gene therapy; vaccine; Bet v 2; profilin.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       treating IgE-mediated allergies. The present sequence represents a chimeric protein, composed of fragments of the birch pollen allergens
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           94.4%; Score 151; DB 8; I
100.0%; Pred. No. 9.8e-15;
iive 0; Mismatches 0;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        2 KAEQVKASKEMGETLLRAVESYLLAHSDAYN 32
                                                                                                                                                                                   1. .73
/note= "Bet v 2 fragment"
                                                                                                                                                                                                                          74. .153
/note= "Bet v 1 fragment"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Claim 7; SEQ ID NO 19; 82pp; English.
                                                                                                                                                           Location/Qualifiers
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ADR87232 standard; protein; 153
                                                                                                                                                                                                                                                                                                                                                                                                                                     14-MAR-2003; 2003US-0455004P.
12-MAR-2004; 2004US-00799514.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               chimeric protein, composed of
profilin Bet v 2 and Bet v 1.
                                                                                                                                                                                                                                                                                                                                                                                        15-MAR-2004; 2004WO-IB001300
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               (first entry)
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        (UYLA-) UNIV LAUSANNE.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    WPI; 2004-668931/65.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Sequence 153 AA;
                                                                                                                                                                                                                                                                                                  WO2004081028-A2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               16-DEC-2004
                                                                                                                                                                                                                                                                                                                                             23-SEP-2004.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Spertini F;
                                                                                      Betula sp.
Chimeric.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  allergies.
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                                                                                                                                                                                      Region
                                                                                                                                                                                                                              Region
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Matches
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ADR87232
                                                                                                                                                              Key
셤
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         The invention relates to novel compositions including contiguous overlapping peptide fragments which together form an entire amino acid sequence of an allergen, where the fragments are capable of inducing a T-cell response in patients who are hypersensitive to the allergen. The contiguous overlapping peptide fragments further result in lower levels of Igs stimulation activity are zero or weak. The contiguous overlapping peptide fragments further result in a decrease in T-cell response upon subsequent exposure to the allergen, thus, modulating an immune response in the patients, who are hypersensitive to the allergen. A composition of the invention has antiallergic activity, and may have a use in gene therapy, and as a vaccine. The composition and methods are useful for preventing or treating IgE-mediated allergies. The present sequence represents a fragment of an allergen of the invention, birch pollen Bet v 1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  New compositions including contiguous overlapping peptide fragments that form an entire amino acid sequence of an allergen (e.g. bee venom or birch pollen allergen), useful for preventing or treating IgE-mediated
                                                                                                                                                                                                                                               birch pollen, allergen, Bet v 1, T-cell response; IgE; immunoglobulin E; immune response; antiallergic; gene therapy; vaccine.
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                                                                                                                                                                                                      Birch pollen allergen Bet v 1 fragment SEQ ID NO:6.
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100.0%; Pred. No. 4.5e-15;
tive 0; Mismatches 0;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Claim 2; SEQ ID NO 6; 82pp; English.
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                                                                   ADR87217 standard; protein; 80 AA.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           14-MAR-2003; 2003US-0455004P.
12-MAR-2004; 2004US-00799514.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                15-MAR-2004; 2004WO-IB001300.
                                                                                                                                                           (first entry)
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                                                                                                                                                                                                                                                                                                                                                                     WO2004081028-A2.
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Gaps

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Length 153; Indels birch pollen; Bet v 1; allergen; T-cell response; IgE; immunoglobulin E;

Chimeric birch pollen allergen protein SEQ ID NO:19.

(first entry)

16-DEC-2004

ADR87230;

BXXXXX

RESULT 3 ADR87230

31,

Query Match Best Loc Matches N

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Chimeric birch pollen allergen protein SEQ ID NO:21.

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GenCore version 5.1.7
Copyright (c) 1993 - 2006 Biocceleration Ltd.
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OM protein - protein search, using sw model

April 17, 2006, 09:43:45; Search time 16.442 Seconds (without alignments) 187.261 Million cell updates/sec Run on:

US-10-026-911-5 160 1 CKAEQVKASKEMGETLLRAVESYLLAHSDAYN 32 Title: Perfect score: Sequence:

BLOSUM62 Gapop 10.0 , Gapext 0.5 Scoring table:

283416 segs, 96216763 residues Searched: 283416 Total number of hits satisfying chosen parameters:

Minimum DB seq length: 0 Maximum DB seq length: 200000000

Post-processing: Minimum Match 0% Maximum Match 100% Listing first 45 summaries

Database

PIR 80:*
1: pir1:*
2: pir2:*
3: pir3:*
4: pir4:*

Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

SUMMARIES

	Description		or pollen a	or pollen	or pollen	pollen		polle	Sc2	1-Sc1 pr	polle		pollen	pollen al	or a	or allergen	or allergen	or allergen	allergen	allergen	allergen	aller	Sc3 prot	١.	protei	pathogenesis-relat	disease resistance	pathogenesis-relat	pro	pathogenesis-relat
	ID	C55699	F55699	155699	S05376	E55699	GS5699	D55699	847251	S47250	A57427	H55699	A55699	B55699	830056	830055	S30053	S30054	T17004	T17007	T17005	T17006	S47249	JC4276	851119	T06527	T06768	T06418	0	T14817
	DB	2	~	~	~	7	~	7	~	~	7	7	7	~	~	~	7	~	~	~	~	7	~	~	~	~	~	~	~	~
	Length	160	160	160	160	160	160	160	159	160	160	160	160	160	160	160	160	160	159	160	160	160	160	159	153	158	159	111	158	161
do (Watch	94.4	94.4	94.4	94.4	93.8	93.8	93.8	90.6	90.6	78.8	78.8	78.8	78.8	65.6	9.59	9.59	9.59	9.09	59.4	59.4	59.4	57.5	54.4	49.4	44.1	44.1	42.8	42.8	40.9
	Score	151	151	151	151	150	150	150	129	129	126	126	126	126	105	105	105	105	97	95	95	95	92	87	79	70.5	ö	68.5	θ.	'n.
•	Result No.	1	8	m	4	S	9	7	80	6	10	11	12	13	14	15	16	17	18	19	20	21			24	25	56	27	28	29

RESULT 2
F55699

major pollen allergen Bet v 1g - European white birch
C;Species: Betula pendula (European white birch)
C;Date: 01-Dec-1995 #sequence_revision 01-Dec-1995 #text_change 09-Jul-2004
C;Accession: F55699; S41896
C;Accession: F55699; S41896
R;&obodda, I; Jilek, A; Ferreira, F.; Engel, E.; Hoffmann-Sommergruber, K.; Scheiner, M.
J. Biol. Chem. 270, 2607-2613, 1995
A;Title: Isoforms of Bet v 1, the major birch pollen allergen, analyzed by liquid chrom A;Reference number: A55699; WUID:95155122; PMID:7852325
A;Accession: F55699
A;Molecule type: mRNA

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Gaps

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Query Match

94.4%; Score 151; DB 2; Length 160;
Best Local Similarity 100.0%; Pred. No. 2.4e-14;
Matches 31; Conservative 0; Mismatches 0; Indels

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pathogenesis-relat stress response qe	pathogenesis relat	pathogenesis-relat	pathogenesis-relat	cytokinin-induced	pathogenesis-relat	pathogenesis-relat	pathogenesis-relat	intracellular path	pathogenesis-relat	STH-21 protein - p	hypothetical prote	major allergen Dau	pathogenesis-relat	pathogenesis-relat
T09659 T09526	T11670	SNFB1	S12568	T10059	S52664	S42650	S47140	T10732	SNFB2	835162	G64507	T14326	S04553	S04552
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157	155	156	158	140	155	158	158	157	155	155	458	154	155	155
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38.	37.5	37.	37.	36.	36.	35.	34.	34.	33.	33	32	32.	32.	32
62	709	09	09	29	58.5	56.5	55.5	54.5	54	54	52.5	25	52	52
30	3 7	33	34	35	36	3.7	38	39	40	41	42	43	44	45

ALIGNMENTS

	RESULT 1
	C55699 major pollen allergen Bet v ld/h - European white birch
	C;Species: Betula pendula (Buropean white birch) C:Date: 01-Dec-1995 #sequence revision 01-Dec-1995 #text_change 09-Jul-2004
-	C;Accession: C55699; S41901; S41898
	R;Swoboda, I.; Jilek, A.; Ferreira, F.; Engel, E.; Hoffmann-Sommergruber, K.; Scheiner,
	Ch, M. T bid. 770 2607-2613 1995
	A:Title: Isoforms of Bet v 1, the major birch pollen allergen, analyzed by liquid chrom
_	A, Reference number: A55699; MUID:95155322; PMID:7852325
	A;Accession: C55699
	A;Molecule type: mRNA
	A;Residues: 1-160 <swo></swo>
_	A, Cross-references: UNIPROT: P43177; UNIPARC: UPI000016DCF7; EMBL: X77266; NID: 9452/31; F1
	A; Note: the source is designated as Betula verrucosa
_	R;Swoboda, I.; Jilek, A.; Ferreira, F.; Vicente, O.; Hoffman-Sommergruber, K.; Heberle-
	submitted to the EMBL Data Library, January 1994
	A;Reference number: S41896
_	A;Accession: S41901
	A;Status: preliminary
	A;Molecule type: mRNA
	A;Residues: 1-160 <sw2></sw2>
	A; Cross-references: UNIPARC: UP1000016DCF7; EMBL:X77270; NID:9452737; PIDN:CAA54486.1; P
	A;Note: the source is designated as Betula verrucosa
	C;Superfamily: pathogenesis-related protein
	C; Keywords: pollen
-	F;2-160/Product: major pollen allergen Bet v 1d/h #status experimental <mai></mai>
	F:83/Binding site: carbohydrate (Asn) (covalent) #status absent

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Gaps

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A;Experimental source: pollen
A;Oxer sequence extracted from NCBI backbone (NCBIP:68408)
A;Note: sequence extracted from NCBI backbone (NCBIP:68408)
A;Note: the source is designated as Betula verrucosa
C;Comment: This protein induces IgE synthesis by B cells in a T cell dependent manner.
C;Superfamily: pathogenesis-related protein
C;Keywords: pollen
P;2-160/Product: major pollen allergen Bet v 1 #status experimental <MAT>
s) Car b I and oak (Quercus alba) Que a I pollens.
A;Reference number: A53288; MUID:92072607; PMID:1961201
A;Accession: B53288
A;Status: preliminary
A;Molecule type: procedin
A;Residues: 2-39, XX, 42-44 < IPS>
A;Cross-references: UNIPARC:UPI0000177F58; PID:9239734; PIDN:AAB20452.1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Query Match 94.4%; Score 151; DB 2; Length 160; Best Local Similarity 100.0%; Pred. No. 2.4e-14; Matches 31; Conservative 0; Mismatches 0; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           130 KAEQVKASKEMGETLLRAVESYLLAHSDAYN 160
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        2 KAEQVKASKEMGETLLRAVESYLLAHSDAYN 32
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A, Status: preliminary
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Query Match
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G55699
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C;Species: Betula pendula (Buropean white birch)
C;Species: Betula pendula (Buropean white birch)
C;Date: 31-Mar-1990 #sequence revision 31-Mar-1990 #text_change 09-Jul-2004
C;Accession: S05376; JG4834; E53288
R;Bretteneder, H.; Pettenburger, K.; Bito, A.; Valenta, R.; Kraft, D.; Rumpold, H.; Sche EMBO J. 8, 1935-1938, 1989
A;Title: The gene coding for the major birch pollen allergen BetvI, is highly homologous A;Reference number: S05376; MUID:90005395; PMID:2571499
A;Residues: 10-160 - RRE-A;Residues: 10-160 - R
                                     A,Cross-references: UNIPROT: P43180; UNIPARC:UPI000016DCFA; EMBL:X77269; NID:g452727; PIL A;Note: the source is designated as Betula verrucosa C;Superfamily: pathogenesis-related protein C;Keywords: pollar C;Keywords: pollar E;E;EfolyProduct: major pollen allergen Bet v 1g #status experimental <MAT> F;2-160/Product: major pollen allergen Bet v 1g #status absent
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  J. Biol. Chem. 270, 2607-2613, 1995
A;Title: Isoforms of Bet v 1, the major birch pollen allergen, analyzed by liquid chroma A;Title: Isoforms of Bet v 1, the major birch pollen allergen, analyzed by liquid chroma A;Reference number: A55699; MUD:9515332; PMID:7852325
A;Accession: 155699
A;Molecule type: mRNA
A;Residues: 1-160 <5W0>
A;Cross-references: UNIPROT:P43185; UNIPARC:UPI000016DCFD; EMBL:X77273; NID:g452743; PIC
A;Note: the source is designated as Betula vertucosa
C;Superfamily: pathogenesis-related protein
C;Superfamily: pathogenesis-related protein
F;2-160/Product: major pollen
F;2-160/Product: major pollen allergen Bet v 11 #status experimental <MAT>
F;2-160/Product: carbohydrate (Asn) (covalent) #status absent
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S.Ippen, H.; Hansen, O.C.
Mol. Immunol. 28, 1279-1288, 1991
A.Title: The NH2-terminal amino acid sequence of the immunochemically partial identical
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                C'Date: 01-Dec-1995 #sequence_revision 01-Dec-1995 #text_cnange uv-vu1-zvv.
C;Accession: I55699; S41904
R;Swoboda, I.; Jilek, A.; Ferreira, F.; Engel, E.; Hoffmann-Sommergruber, K.; Scheiner,
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C;Species: Betula pendula (European white birch)
C;Date: 01-Dec-1995 #sequence_revision 01-bec-1995 #text_change 09-Jul-2004
                                                                                                                                                                                                                                                                                                                                                                                                                                                       Gaps
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al Similarity 100.0%; Pred. No. 2.4e-14;
31; Conservative 0; Mismatches 0; Indels
                                                                                                                                                                                                                                                                                                                                                                    Length 160;
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                                                                                                                                                                                                                                                                                                                                                           94.4%; Score 151; DB 2; I 100.0%; Pred. No. 2.4e-14; rative 0; Mismatches 0;
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A;Molecule type: mRNA
A;Residues: 1-160 <SWO>
A;Cross-references: UNIPROT:P43179; UNIPARC:UPI000016DCF9; EMBL:X77268; NID:g452735; PI)
A;Otoe: the source is designated as Betula verrucosa
R;Swoboda, I.; Jilek, A.; Ferreira, F.; Vicente, O.; Hoffman-Sommergruber, K.; Heberle-:
submitted to the EMBL Data Library, January 1994
A;Reference number: S41896
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      A;Cross-references: UNIPARC:UP1000016DCF9; EMBL:X77274; NID:g452745; PIDN:CAA54490.1; P:A;Note: the source is designated as Betula verrucosa
C;Superfamily: pathogenesis-related protein
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V. Biol. Chem. 270, 2607-2613, 1995
A;Title: Isoforms of Bet v 1, the major birch pollen allergen, analyzed by liquid chrom.
A;Reference number: A55699; MUID:95155322; PMID:7852325
                                                                                                                                                                                                                              J. Biol. Chem. 270, 2607-2613, 1995
A;Title: Isoforms of Bet v 1, the major birch pollen allergen, analyzed by liquid chrom
A;Reference number: A55699; MUID:95155322; PMID:7852325
A;Accession: E55699
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C;Species: Betula pendula (Buropean white birch)
C;Date: 0.1-Dec-1995 #sequence_revision 01-Dec-1995 #text_change 09-Jul-2004
C;Accession: G55699; 841902
R;Swoboda, I.; Jilek, A.; Ferreira, F.; Engel, E.; Hoffmann-Sommergruber, K.; Scheiner,
major pollen allergen Bet v 1f/i - European white birch
C;Species: Betula pendula (European white birch)
C;Date: 0.1 Dec-1995 #sequence revision 01-Dec-1995 #text_change 09-Jul-2004
C;Accession: E55699; 841905; 541900
R;Swoboda, I.; Jilek, A.; Ferreira, F.; Engel, E.; Hoffmann-Sommergruber, K.; Scheiner,
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April 17, 2006, 09:43:29; Search time 53.9227 Seconds (without alignments) 418.691 Million cell updates/sec
GenCore version 5.1.7
Copyright (c) 1993 - 2006 Biocceleration Ltd.
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1 CKAEQVKASKEMGETLLRAVESYLLAHSDAYN
                                                                                                                                                                                                                                                                                                                                                                                                              Total number of hits satisfying chosen parameters:
                                                                                                                                                                                                                                                                                                                                                                 2166443 segs, 705528306 residues
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Post-processing: Minimum Match 0%
Maximum Match 100%
Listing first 45 summaries
                                                                                OM protein - protein search, using sw model
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Gapop 10.0 , Gapext 0.5
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Maximum DB seq length: 2000000000
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Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

1: uniprot_sprot:*
2: uniprot_trembl:*

SUMMARIES

Description	P15494 betula verr						betula		betula	betula	• •	betula			betula		petula.						petula.		petula	8 betula	9 betula	betula	750	9431	Q9syw2 betula verr
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TISSUE-Pollen,
MEDLINE-95155322; PubMed=7852325; DOI=10.1074/jbc.270.6.2607;
MEDLINE-95155322
Wooboda I., Jilek A., Ferreira F., Engel E., Hoffman-Sommergruber K Scheiner O., Kraft D., Breiteneder H., Pittenauer E., Schmid E., Vicente O., Heberle-Bors E., Ahorn H., Breitenbach M.;
"Isoforms of Eet v 1, the major birch pollen allergen, analyzed by Jiquid chromatography, mass spectrometry, and cDNA cloning.";
J. Biol. Chem. 270:2607-2613 (1995).

[3] PROTEIN SEQUENCE.

MEDLINE=91317572; PubMed=2101127;
MEDLINE=91317572; PubMed=2101127;
Blaayed S., Vik H.;
Blayed S., Vik H.;
Intrication and N-terminal amino acid sequence of two birch pollen isoallergens (Bet v I and Bet v II).";
Int. Arch. Allergy Appl. Immunol. 93:378-384(1990).

X-RAY CRYSTALLOGRAPHY (2.0 ANGSTROMS), AND STRUCTURE BY NAR. MEDLINE=97102431; PubMed=8946858; Gajhedd M., Osmark P., Poulsen F.M., Ipsen H., Larsen J.N., van Neerven R.J.J., Schou C., Loewenstein H., Spandfort M.D.; "X-ray and NMR structure of Bet v 1, the origin of birch pollen allergy"; Nat. Struct. Biol. 3:1040-1045(1996).

cause of type

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This Swiss-Prot entry is copyright. It is produced through a collaboration between the Swiss Institute of Bioinformatics and the BMBL outstation the European Bioinformatics Institute. There are no restrictions on its use as long as its content is in no way modified and this statement is not
                                                                                                                                                        MEDLINE-99155322; PubMed-7852225; DOI=10.1074/jbc.270.6.2607; Swoboda I., Jilek A., Ferreira F., Engel E., Hoffman-Sommergruber K., Scheiner O., Kraft D., Breiteneder H., Pittenauer E., Schmid E., Vicente O., Heberle-Bors E., Ahorn H., Breitenbach M.; "Isoforms of Bet v 1, the major birch pollen allergen, analyzed by liquid chromatography, mass spectrometry, and cDNA cloning.";
                     Bukaryota, Viridiplantae, Streptophyta, Embryophyta, Tracheophyta,
Spermatophyta, Magnoliophyta, eudicotyledons, core eudicotyledons,
rosids, eurosids I, Fagales, Betulaceae, Betula.
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Spermatophyta, Magnoliophyta, eudicotyledons, core eudicotyledons,
rosids, eurosids I, Fagales, Betulaceae, Betula.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            94.4%; Score 151; DB 1; Length 159; 100.0%; Pred. No. 7.5e-14; ive 0; Mismatches 0; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      159 AA; 17418 MW; 8D1F3F8FE56106FD CRC64;
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Pathogenesis-related protein; Plant defense.
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TISSUE=Pollen;
                                                                                                                                     NUCLEOTIDE SEQUENCE, AND PARTIAL PROTEIN SEQUENCE.
  Betula verrucosa (White birch) (Betula pendula).
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01-NOV-1995 (Rel. 32, Last sequence update)
10-MAY-2005 (Rel. 47, Last annotation update)
Major pollen allergen Bet v 1-G (Bet v I-G).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           129 KAEQVKASKEMGETLLRAVESYLLAHSDAYN 159
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PROSITE; PS00451; PATHOGENESIS_BETVI; 1.
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EMBL; X77270; CAA54486.1; -; mRNA.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             InterPro; IPR000916; Bet v. I. Pfam; PF00407; Bet v. I; I. PRINTS; PR00634; BETALLERGEN.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         PIR; C55699; C55699.
HSSP; P43185; 1FM4.
SMR; P43177; 1-159.
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                                                                                            NCBI_TaxID=3505;
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                                                                                                                                                                                                                                                                                                REMBL; 280104; CAB02159.1; -; mkwn.
RPIR; 505376; 505376.
RPIR; S05376; S05376.
RPIR; S05376; S05376; S05376.
RPIR; SP00407; Bet v. 1; 1.
RPIR; RPO0407; Bet v. 1; 1.
RPIR; RPO0407; Bet v. 1; 1.
RPIR; RPO0407; RETALLERGEN.
RPIR; RPO0407; RETALLERGEN.
RPIR; RPO0411; PATHOGENESIS_BETVI; 1.
RPIR; RPO0411; PATHOGENESIS_BETVI; 1.
RPIR; RP
-!- ALLERGEN: Causes an allergic reaction in human. Is a cause of type I allergic reactions in Europe, North America and USSR. -!- SIMILARITY: Belongs to the BetVI family.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Gaps
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01-NOV-1995 (Rel. 32, Last sequence update)
10-MAY-2005 (Rel. 47, Last annotation update)
Major pollen allergen Bet v 1-D/H (Bet v I-D/H).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             159 AA
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                                                                                                                                                                                                                               EMBL, X15877; CAA33887.1; -; mRNA.
EMBL; Z80098; CAB02153.1; -; mRNA.
EMBL; Z801099; CAB02154.1; -; mRNA.
EMBL; Z80104; CAB02159.1; -; mRNA.
PIR; S05376; S05376.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   STANDARD;
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BEV1D B P43177;

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Gaps

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GenCore version 5.1.7
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OM protein - protein search, using sw model

April 17, 2006, 09:44:15; Search time 25.2818 Seconds (without alignments) 104.645 Million cell updates/sec Run on:

US-10-026-911-5 160 1 CKAEQVKASKEMGETLLRAVESYLLAHSDAYN 32 Perfect score: Sequence:

BLOSUM62 Gapop 10.0 , Gapext 0.5 Scoring table:

572060 Total number of hits satisfying chosen parameters:

572060 segs, 82675679 residues

Searched:

Minimum DB seq length: 0 Maximum DB seq length: 200000000

Post-processing: Minimum Match 0% Maximum Match 100% Listing first 45 summaries

Issued_Patents AA:* Database

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/cgm2_6/ptodata/1/iaa/H_COMB.pep:*
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/cgm2_6/ptodata/1/iaa/RE_COMB.pep:*

Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

											_	_	_				_	_	^	_	_	_	_	_	_	^		_
		Appl	Appli	Appl	Appl	, Appl	Appl	Appli	Appl	5312912	47560, A	0, A <u>F</u>	31217, #	Appli	Appli	Appli	13309, 7			, App					', Apr	3, App	Appli	App
	g :	23,	m	Ξ,	14,	17,	20,	7	Ξ	n			312	7	'n	'n	_	12	248	128		248	24	_	15	158	ທີ	46
	Description	Sequence	Sequence	Sequence	Seguence	Sequence	Sequence	Sequence	Sequence	Patent No.	Sequence	Seguence	Sequence	Seguence	Sequence	Seguence	Sequence	Sequence	Sequence	Sequence	Seguence	Sequence	Sequence	Sequence	Sequence	Sequence	Sequence	Segmence
SUMMARIES		US-07-847-010-23	US-07-847-010-3	US-07-847-010-11	US-07-847-010-14	US-07-847-010-17	US-07-847-010-20	US-08-964-722-2	JS-09-257-583-11	2-2	JS-09-270-767-47560	US-09-489-039A-8710	US-09-252-991A-31217	US-08-138-636-2	US-08-319-622A-2	US-08-471-564-2	US-09-902-540-13309	US-08-851-843A-128	US-08-974-549A-248	US-08-854-050-128	US-09-430-323-128	US-09-402-181B-248	US-09-721-456-248	US-09-766-253-128	US-10-054-295-128	US-09-438-486A-128	US-08-622-191-5	TS-07-872-678A-46
SUM	Ð	US-07-	US-07-	US-07-	US-07-	US-07-	US-07-	US-08-	-60-SD	5312912-2	-60-SD	-60-SD	-60-SD	US-08-	US-08-	-80-SD	-60-SD	-80-SD	-80-SD	US-08-	-60-SD	-60-SN	-60-SD	-60-SN	US-10-	-60-SD	US-08-	-70-511
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	Query Match Length	160	160	160	160	160	160	158	160	158	350	303	608	305	305	305	312	47	47	47	47	47	47	47	47	47	465	52
	% Query Match	94.4	6.99	65.6	65.6	65.6	9.59	46.6	37.5	36.6	34.4	31.2	31.2	30.9	30.9	30.9	30.9	30.6	30.6	30.6	30.6	30.6	30.6	30.6	30.6	30.6	30.0	29.4
	Score	151	107	105	105	105	105	74.5	9	58.5	55	20	000	49.5	49.5	49.5	σ	4	49	4	49	49	49	49	49	49	48	47
	Result No.	-	~	•	4	'n	•	7	60	6	10	11	12	13	14	15	91	17	18	19	20	21	22	23	24	25	26	27

Sequence 6, Appli Sequence 32343, A Sequence 32244, A Sequence 47, Appl Sequence 311, Appl Sequence 1170, A Sequence 11748 A Sequence 11748 A Sequence 1138, A Sequence 1138, A Sequence 1438, A Sequence 16955, A Sequence 16955, A Sequence 13318, A Sequence 13318, A	Sequence 4, Appli Sequence 5, Appli
US-08-199-219-6 US-09-270-767-32343 US-09-272-91A-32284 US-07-82-57-891A-32284 US-09-347-878-44 US-09-19-637A-331 US-09-19-637A-331 US-09-252-91A-21470 US-09-354-142B-4 US-09-394-142B-4 US-09-394-142B-4 US-09-394-142B-4 US-09-394-142B-4 US-09-394-142B-4 US-09-394-142B-4 US-09-394-142B-4 US-09-394-142B-4 US-09-388-352-4734 US-09-388-352-4734 US-09-488-033A-13318 US-08-861-774E-94	US-08-911-434A-4 US-08-829-027-5
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ALIGNMENTS

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APPLICANT: Breiteneder, Heimo APPLICANT: Relikerstorfer, Arnold APPLICANT: Valenta, Rudolf APPLICANT: Valenta, Rudolf APPLICANT: Valenta, Rudolf APPLICANT: Valenta, Rudolf APPLICANT: Hoffmann - Sommergruber, Karin APPLICANT: Breitenbach, Michael APPLICANT: Kraft, Dietrich APPLICANT: Scheiner, Otto APPLICANT: Scheiner, Otto APPLICANT: Ebner, Christof APPLICANT: Scheiner, 23 CORRESPONDENCE ADDRESS: ADDRESSE: Pennie & Edmonds STREET: 1155 Avenue of the Americas CUMTRY: New York STATE: New York STATE: New York STATE: New York COUNTRY: U.S.A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                COMPUTER FRADABLE FORM:
MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC Compatible
COMPUTER: IBM PC Compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: Patentin Release #1.0, Version #1.25
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/07/847,010
FILING DATE: 01-JUN-1992
CLASSIFICATION: 435
ATTORNEY/AGENT INPORMATION:
NAME: JOHGS III, HATTY C
REGISTRATION NUMBER: 20,280
REFERENCE/DOCKET NUMBER: 6530-010
TELECHMONICATION INFORMATION:
TELECHMONICATION INFORMATION:
TELECHMONICATION INFORMATION:
TELEFRAS: (212) 790-9090
TELEFRAS: (212) 869-9741/8864
              Sequence 23, Application US/07847010; Patent No. 5693495; GENERAL INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         TELEFAX: (212) ...
TELEX: 6641 PENNIE
INFORMATION FOR SEQ ID NO: 23:
SEQUENCE CHARACTERISTICS:
TENGTH: 160 amino acids
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   MOLECULE TYPE: peptide
HYPOTHETICAL: NO
ORIGINAL SOURCE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                amino acid
3Y: linear
US-07-847-010-23
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RESULT 2

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Query Match 65.6%; Score 105; DB 1; Length 160; Best Local Similarity 70.0%; Pred. No. 1.3e-08; Matches 21; Conservative 4; Mismatches 5; Indels
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CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/07/847,010
FILING DATE: 01-JUN-1992
CLASSIFICATION: 435
ATTONENT/AGENT INPORMATION:
NAME: Jones III, HATTY C
REGISTRATION NUMBER: 20,280
REGISTRATION NUMBER: 6530-010
TELECOMMUNICATION INPORMATION:
                                                                                                                                                                                                                                                                                                                                 APPLICANT: Rumpold, Helmut
APPLICANT: Scheiner, Otto
APPLICANT: Ebner, Christof
APPLICANT: Ferreira, Fatima
TITLE OF INVENTION: Allergens of Alder Pollen and
TITLE OF INVENTION: Applications Thereof
CORRESPONDENCES: 23
                                                                                                                                                                                   Breiteneder, Heimo
Reikerstorfer, Arnold
Valenta, Rudolf
Hoffmann - Sommergruber, Karin
Breitenbach, Michael
Kraft, Dietrich
Rumpold, Helmut
Scheiner, Okto
Ebner, Christof
Ferreira, Fatima
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    131 AEQIKIEKEKAVGLLKAVESYLLAHSDAYN 160
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ADDRESSEE: Pennie & Edmonds
STREET: 1155 Avenue of the Americas
CITY: New York
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            STATE: New York
COUNTRY: U.S.A.
ZIP. 10036-2711
COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
                                                                                                               ; Sequence 11, Application US/07847010; Patent No. 5693495
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ORGANISM: hazel (Corylus sp.)
IMMEDIATE SOURCE:
LIBRARY: POLLEN FROM ALLERGON
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            TELEX: 66141 PENNIE
INFORMATION FOR SEQ 1D NO: 11:
SEQUENCE CHARACTERSTICS:
LENGTH: 160 amino acids
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amino acid
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 TOPOLOGY: linear
MOLECULE TYPE: peptide
HYPOTHETICAL: NO
                                                                                                                                                                  GENERAL INFORMATION:
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                                                                    RESULT 3
US-07-847-010-11
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US-07-847-010-14
                                                                                                                                                                                                                                      APPLICANT:
APPLICANT:
APPLICANT:
APPLICANT:
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0
                                                                                                                       Length 160;
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66.9%; Score 107; DB 1; Length 160;
Best Local Similarity 73.3%; Pred. No. 6.2e-09;
Matches 22; Conservative 2; Mismatches 6; Indels
                                                                                                                                                                    Indels
                                                                                                                                                                                                                                                                                                                                                                                    APPLICANT: Breiteneder, Heimo
APPLICANT: Reikerstorfer, Arnold
APPLICANT: Valenta, Rudolf
APPLICANT: Valenta, Rudolf
APPLICANT: Breitenbach, Michael
APPLICANT: Breitenbach, Michael
APPLICANT: Raft, Dietrich
APPLICANT: Rempold, Helmut
APPLICANT: Scheiner, Otto
APPLICANT: Ebner, Christof
APPLICANT: Ferreira, Fatima
TITLE OF INVENTION: Allergens of Alder Pollen and
TITLE OF INVENTION: Applications Thereof
NUMBER OF SEQUENCES: 23
CORRESPONDENCE ADDRESS:
ADDRESSER: Pennie F.
                 IMMEDIATE SOURCE:
; LIBRARY: POLLEN FROM ALLERGON AB, ENGELHOLM, SWEDEN
US-07-847-010-23
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                SOFTWARES PATENTIN Release #1.0, Version #1.25
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/07/847,010
FILING DATE: UJ-JUN 1992
CLASSIFICATION: 435
ATTONNEY/AGENT INPORMATION:
NAME: JOHES III, HAILY C
REGISTRATION NUMBER: 20,280
REGISTRATION NUMBER: 6530-010
TELECOMMUNICATION INFORMATION:
TELEPRAK: (212) 790-9090
TELEPRAK: (212) 780-9090
TELEPRAK: (212) 780-9090
                                                                                                                  Query Match 94.4%; Score 151; DB 1; 1
Best Local Similarity 100.0%; Pred. No. 7.9e-16;
Matches 31; Conservative 0; Mismatches 0;
                                                                                                                                                                                                                                         130 KAEQVKASKEMGETLLRAVESYLLAHSDAYN 160
                                                                                                                                                                                                                  2 KAEQVKASKEMGETLLRAVESYLLAHSDAYN 32
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              STREET: 1155 Avenue of the America CITY: New York STATE: New York COUNTRY: U.S.A. ZIP: 10036-2711 COMPUTER READABLE FORM: MEDIUM TYPE: Floppy disk COMPUTER: IBM PC COMPATIBLE COMPUTER: PROPERSIBLE OF POS/MS-DOS/MS-DOS OPERATING SYSTEM: PC-DOS/MS-DOS
                                                                                                                                                                                                                                                                                                                                                                               Sequence 3, Application US/07847010
Patent No. 5693495
ORGANISM: birch (Betula sp.)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ORIGINAL SOURCE:
ORGANISM: Alder (Alnus sp.)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             LENGTH: 160 amino acids
TYPE: amino acid
TOPOLOGY: linear
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    TELEX: 66141 PENNIE
INFORMATION FOR SEQ ID NO:
SEQUENCE CHARACTERISTICS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    MOLECULE TYPE: peptide HYPOTHETICAL: NO
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     US-07-847-010-3
                                                                                                                                                                                                                                                                                                                                                                US-07-847-010-3
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Sequence 14, Application US/07847010; Patent No. 5633495; GENERAL INFORMATION: APPLICANT: Breiteneder, Heimo

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Gaps ö

3 AEQVKASKEMGETLLRAVESYLLAHSDAYN 32

Appl
Appl
Appli

Sequence Sequence Sequence

Sequence Sequence Sequence

Sequence Sequence

Sequence Sequence

Sequence 11, Sequence 12, Sequence 10,

Sequence 1,

Scoring table:

Searched:

Perfect score:

Sequence:

OM protein

Sequence

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Sequence 6. Application US/10799514;
Sequence 6. Application US/10799514;
Publication No. US20040241178A1
GENERAL INFORMATION:
APPLICANT: Spertini, Francois
ITLE OF INVENTION: Allergen Peptide Fragments and Use Thereof
TILE REFERENCE: 25720-502
CURRENT APPLICATION NUMBER: US/10/799,514
CURRENT FILING DATE: 2004-03-12
PRIOR PLING DATE: 2003-03-14
PRIOR PLING DATE: 2003-03-14
NUMBER OF SEQ ID NOS: 23
SOFTWARE: PatentIn Ver: 2.1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   APPLICANT: Procke, Margarete
APPLICANT: Mahler, Vera
APPLICANT: Wahler, Vera
APPLICANT: Valent, Vere
APPLICANT: Valent, Peter
APPLICANT: Valent, Peter
APPLICANT: Valenta, Rudolf
TITLE OF INVERTION: Allergy Vaccines and Their Preparation
FILE REFERENCE: 0273-0005
CURRENT APPLICATION NUMBER: US/10/026,911
CURRENT FILING DATE: 2002-07-24
NUMBER OF SEQ ID NOS: 6
SOFTWARE: Patentin Ver: 2.1
SEQ ID NO S: 6
LENGTH: 32
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              OTHER INFORMATION: Description of Artificial Sequence: OTHER INFORMATION: solvent-exposed peptide
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Query Match
100.0%; Score 160; DB 4;
Best Local Similarity 100.0%; Pred. No. 3.3e-16;
Matches 32; Conservative 0; Mismatches 0;
US-10-440-516-44

US-10-440-516-45

US-10-440-516-45

US-10-440-516-23

US-10-440-516-23

US-10-440-516-40

US-10-440-516-40

US-10-440-516-10

US-10-440-516-10

US-10-001-245-10

US-10-001-245-10

US-10-001-245-10

US-10-001-245-11

US-10-001-245-11
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ALIGNMENTS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             US-10-026-911-5; Sequence 5, Application US/10026911; Publication No. US20030078201A1; GENERAL INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ORGANISM: Artificial Sequence
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US-10-799-514-6
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     TYPE: PRT
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(6, Appli
19, Appli
11, Appli
134, Appli
136, Appli
137, 
                                                                                                                                                                                                      April 17, 2006, 10:01:54 ; Search time 39.0718 Seconds (without alignments) 342.204 Million cell updates/sec
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Sequence 1, As Sequence 1, As Sequence 34, Sequence 36, Sequence 42, Sequence 42, Sequence 3, As Sequence 3, As
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Sequence 6,
Sequence 19,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Sequence 5,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Description
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Sequence 7
Sequence 8
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Sequence 3
Sequence 4
Sequence 4
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Sequence
Sequence
Sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Published Applications AA_Main:*
1: /cgn2_6/ptodata/1/pubpaa/US07_PUBCOMB.pep:*
2: /cgn2_6/ptodata/1/pubpaa/US08_PUBCOMB.pep:*
3: /cgn2_6/ptodata/1/pubpaa/US10A_PUBCOMB.pep:*
4: /cgn2_6/ptodata/1/pubpaa/US10A_PUBCOMB.pep:*
5: /cgn2_6/ptodata/1/pubpaa/US10B_PUBCOMB.pep:*
6: /cgn2_6/ptodata/1/pubpaa/US10B_PUBCOMB.pep:*
                                     GenCore version 5.1.7
Copyright (c) 1993 - 2006 Biocceleration Ltd.
                                                                                                                                                                                                                                                                                                                                                                         1 CKAEQVKASKEMGETLLRAVESYLLAHSDAYN 32
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              US-10-026-911-5

US-10-799-514-6

US-10-799-514-19

US-09-981-0098-1

US-09-847-208-34

US-09-847-208-34

US-09-847-208-35

US-09-957-806A-6

US-09-957-806A-6

US-10-001-245-3

US-10-001-245-3

US-10-001-245-3

US-10-001-245-3

US-10-40-516-1

US-10-40-516-1

US-10-40-516-1

US-10-40-516-1

US-10-99-847-208-38

US-09-847-208-38

US-09-847-208-40

US-10-001-245-4

US-10-001-245-4

US-10-440-516-3

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Maximum Match 100%
Listing first 45 summaries
                                                                                                                                                    - protein search, using sw model
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Gapop 10.0 , Gapext 0.5
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Maximum DB seq length: 200000000
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Publication No. US20040241178A1

GENERAL INFORMATION:
APPLICANT: Sperini, Francois
APPLICANT: Sperini, Francois
ITLE OF INVENTION: Allasse
TITLE OF INVENTION: Allasse
FILE REFREENCE: 25720-502
CURRENT APPLICATION NUMBER: US/10/799,514
CURRENT FILING DATE: 2004-03-12
PRIOR PILLORYION NUMBER: 60/455,004
PRIOR PILLING DATE: 2003-03-14
NUMBER OF SEQ ID NOS: 23
SOFTWARE: Patentin Ver. 2.1
SEQ ID NO 21
LENGTH: 153
TYPE: PRI
                                                                                                                                                                                                                                                                                                                                                                                                                                   Sequence 19, Application US/10799514

Publication No. US20040241178A1

General INFORMATION:

APPLICANT: Spertini, Francois

APPLICANT: Spertini, Francois

TITLE OF INVENTION: Allergen Peptide Fragments and Use Thereof

FILE REFERENCE: 25720-502

FURRENT APPLICATION NUMBER: US/10/799,514

CURRENT FILING DATE: 2004-03-12

PRIOR FILING DATE: 2003-03-14

NUMBER OF SEQ ID NOS: 22

SOFTWARE: Patentin Ver. 2.1

SEO ID NO 19

LENGTH: 153

TYPE: PRT
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                                                                                                            OTHER INFORMATION: Description of Artificial Sequence: Synthetic OTHER INFORMATION: Peptide
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94.4%; Score 151; DB 5; Length 153;
Best Local Similarity 100.0%; Pred. No. 4.6e-14;
Matches 31; Conservative 0; Mismatches 0; Indels
                                                                                                                                                                                               Query Match 94.4%; Score 151; DB 5; Length 80; Best Local Similarity 100.0%; Pred. No. 2.1e-14; Matches 31; Conservative 0; Mismatches 0; Indels
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  SEQ ID NO 6
LENGTH: 80
                                              TYPE: PRT
                                                                                         FEATURE:
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94.4%; Score 151; DB 5; Length 153; 100.0%; Pred. No. 4.6e-14; ive 0; Mismatches 0; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Ouery Match 94.4%; Score 151; DB 3; Length 159; Best Local Similarity 100.0%; Pred. No. 4.8e-14; Matches 0; Indels
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US-09-847-208-34
; Sequence 34, Application US/09847208
; Publication No. US20030082190A1
; GENERAL INFORMATION:
; APPLICANT: Saxon, Andrew
; APPLICANT: Zhang, Ke
; APPLICANT: Zhang, Ke
; TITLE OF INVENTION: FUSION MOLECULES AND TREATMENT OF
; TITLE OF INVENTION: IgE-MEDIATED ALLERGIC DISEASES
; FILE REFERENCE: UGG7. 002A
; CURRENT APPLICATION NUMBER: US/09/847,208
; CURRENT APPLICATION NUMBER: US/09/847,208
; CURRENT APPLICATION NUMBER: 1771
; NUMBER OF SEQ ID NOS: 177
; SOFTWARE: PastERQ for Windows Version 4.0
; SEQ ID NO 34
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              129 KAEQVKASKEMGETLLRAVESYLLAHSDAYN 159
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                                                                                                        2 KAEQVKASKEMGETLLRAVESYLLAHSDAYN 32
                                                                                                                                                                                                                                                                                 Sequence 1, Application US/09981009B
; Publication No. US20030041354A1
; GENERAL INFORMATION:
    APPLICANT: Kjaerulff, Soren
; APPLICANT: Koggen, Erwin
; TITLE OF INVENTION: Transgenic Plants
; FILE REFERENCE: 10082.200-US
; CURRENT APPLICATION NUMBER: US/09/981,009B
; CURRENT FILING DATE: 2002-06-14
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     2 KAEQVKASKEMGETLLRAVESYLLAHSDAYN 32
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US-09-847-208-36
'S-Gquence 36, Application US/09847208
'Publication No. US20030082190A1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       NUMBER OF SEQ ID NOS: 5
SOFTWARE: Patentin version 3.1
  Query Match
Best Local Similarity 100.0
Matches 31; Conservative
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                                                                                                                                                                                                                                      RESULT 5
US-09-981-009B-1
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LENGTH: 159
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April 17, 2006, 10:05:54 ; Search time 7.07182 Seconds (without alignments) 192.264 Million cell updates/sec
GenCore version 5.1.7
Copyright (c) 1993 - 2006 Biocceleration Ltd.
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160
1 CKAEQVKASKEMGETLLRAVESYLLAHSDAYN 32
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                                                                                                                                                                                                                                                                                                                                                                               217505 segs, 42489236 residues
                                                                                         OM protein - protein search, using sw model
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Gapop 10.0 , Gapext 0.5
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                                                                                                                                                                                                                                                                   Sequence:
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Database

Post-processing: Minimum Match 0% Maximum Match 100% Listing first 45 summaries

Minimum DB seq length: 0 Maximum DB seq length: 200000000

Published Applications AA New:*

1: /SIDSS/ptcdata/1/pubpaa/US06_NEW_PUB.pep:*

2: /SIDSS/ptcdata/1/pubpaa/US07_NEW_PUB.pep:*

3: /SIDSS/ptcdata/1/pubpaa/US07_NEW_PUB.pep:*

4: /SIDSS/ptcdata/1/pubpaa/PCT_NEW_PUB.pep:*

5: /SIDSS/ptcdata/1/pubpaa/US10_NEW_PUB.pep:*

7: /SIDSS/ptcdata/1/pubpaa/US10_NEW_PUB.pep:*

8: /SIDSS/ptcdata/1/pubpaa/US11_NEW_PUB.pep:*

8: /SIDSS/ptcdata/1/pubpaa/US11_NEW_PUB.pep:*

Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

SUMMARIES

		de				
Score	Ä	Query Match	Length	DB	ID	Description
	151	94.4	160	9	US-10-498-026-81	Sequence 81, Appl
	151	94.4		7	US-11-102-883-18	Sequence 18, Appl
	151	94.4	289	7	US-11-102-883-26	
	151	94.4	300	7	US-11-102-883-6	6, 1
	51	31.9	283	7	US-11-102-883-32	32,
	51	31.9	294	7	US-11-102-883-30	Sequence 30, Appl
٠.	50.5	31.6	1018	7	US-11-079-463-5592	Sequence 5592, Ap
	49	30.6	47	-	US-11-207-078-248	Sequence 248, App
	49	30.6	785	-	US-11-079-463-6914	Sequence 6914, Ap
	48	30.0		7	US-11-087-099-10480	_
	48	30.0	406	7	US-11-172-740-1391	Sequence 1391, Ap
	48	30.0	406	7	US-11-172-740-1392	
	48	30.0	406	7	US-11-188-298-9700	Sequence 9700, Ap
	48	30.0	483	7	US-11-096-568A-18679	Sequence 18679, A
	48	30.0		۲	US-11-096-568A-18678	Sequence 18678, A
	48	30.0	565	7	US-11-096-568A-18677	Sequence 18677, A
	47	29.4		7	US-11-096-568A-7490	-
	47	29.4		9	US-10-495-597-13	
	47	29.4		7	US-11-096-568A-7489	Sequence 7489, Ap
	47	29.4	312	7	US-11-096-568A-7488	Sequence 7488, Ap
	47	29.4	330	7	US-11-188-298-2814	Sequence 2814, Ap
•	46.5	29.1	370	7	US-11-087-099-2703	
•	46.5	29.1	370	7	US-11-087-099-9775	Sequence 9775, Ap
•	46.5	29.1	371	7	US-11-087-099-10802	Sequence 10802, A
	46	28.7	223	Q	US-10-878-556A-167	Sequence 167, App

Sequence 160, App Sequence 1393, Ap Sequence 1397, Ap Sequence 1210, Ap Sequence 2118, A Sequence 2, Appli Sequence 1230, Ap Sequence 1230, Ap Sequence 1200, Ap Sequence 1390, Ap Sequence 1854, A Sequence 1864, A Sequence 286, App Sequence 236, App Sequence 236, App Sequence 236, App Sequence 236, App Sequence 5191, Ap	Sequence 771, App Sequence 777, App
US-10-454-437-160 US-11-172-740-1393 US-11-172-740-1399 US-11-172-740-1399 US-11-188-298-1210 US-11-298-21118 US-11-298-21118 US-10-796-454-1230 US-10-79-626-1200 US-11-172-740-1390 US-11-172-740-1390 US-11-172-740-1390 US-11-188-298-17854 US-11-188-298-17854 US-11-188-298-1738 US-11-188-298-7738 US-11-188-298-7738 US-11-188-298-7738 US-11-188-298-7738	US-10-995-561-771 US-10-995-561-777
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0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	4 4 5 4 8

ALIGNMENTS

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Sequence 81, Application US/10498026
; Publication No. US20060024334A1
; GENERAL INFORMATION:
; FAPLICANT: CIRCASIA LIMITED
; TITLE OF INVENTION: IMMUNOTHERAPEUTIC METHODS AND SYSTEMS; FILE REFERENCE: N.87430 WO GCW
; CURRENT APPLICATION NUMBER: US/10/498,026
; CURRENT PILING DATE: 2004-06-04
; NUMBER OF SEQ ID NOS: 118
; SOFTWARE: Patentin version 3.1
; SEQ ID NO 81
; LENGTH: 160
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Query Match
94.4%; Score 151; DB 6; Length 160;
Best Local Similarity 100.0%; Pred. No. 6.7e-15;
Matches 31; Conservative 0; Mismatches 0; Indels
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; ORGANISM: Betula pendula
US-10-498-026-81
RESULT 1
US-10-498-026-81
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2 KAEQVKASKEMGETLLRAVESYLLAHSDAYN 32 ઠે

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Gaps

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APPLICANT: Crameri, Retornary Applicant: Crameri, Retornary Pluckiger, Sabina Applicant: Fluckiger, Sabina Applicant: Fluckiger, Sabina Applicant: Fluckiger, Sabina Applicant: Fluckiger, Sabina Applicant: Daigle, Isabelle TITLE OF INVENTION: Modularing Immune Reactions, Associated Constructs, Methods an TITLE OF INVENTION: Uses Thereof TITLE OF INVENTION: Uses Thereof File Reference: 01100214pa CURRENT APPLICATION NUMBER: US/11/102,883 CURRENT APPLICATION NUMBER: EP02022774.0 PRIOR APPLICATION NUMBER: PC7/EP2003/011190 PRIOR FILING DATE: 2002-10-11 PRIOR FILING DATE: 2003-10-09 PRIOR FILING DATE: 2003-10-09 RIOR SEQ ID NOS: 44 SOFTWARE: Patentin version 3.2
                                                                                                                                                       US-11-102-883-18
, Sequence 18, Application US/11102883
, Publication No. US20050281816A1
, GENERAL INFORMATION:
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sequence 32, Application US/11102883
sequence 32, Application US/11102883
sequence 32, Application No. US20050281816A1
sequence 32, Application No. US20050281816A1
sequence 32, Application No. US20050281816A1
sepulcant: Inching Norbert
sepulcant: Crameri, Reto
sepulcant: Crameri, Reto
sepulcant: Crameri, Reto
sepulcant: Daigle, Isabelle
sepulcant: Daigle, Isabelle
sepulcant: Daigle, Isabelle
sepulcantion: Wodularing Immune Reactions, Associated Constructs, Methods and
sepulcantion: Uses Thereof
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US-11-102-883-30

US-11-102-883-30

US-11-102-883-30

Sequence 30, Application US/11102883

Publication No. US20050281816A1

GENERAL INFORMATION:

APPLICANT: Crameri, Reto

APPLICANT: Crameri, Reto

APPLICANT: Crameri, Reto

APPLICANT: Crameri, Reto

APPLICANT: Daigle, Isabelle

TITLE OF INVENTION: Modular Antigen Transporter Molecules) for

TITLE OF INVENTION: Uses Thereof

TITLE OF INVENTION UNMBER: US/11/102,883

CURRENT FILING DATE: 2005-04-11

PRIOR FILING DATE: 2002-10-11

PRIOR FILING DATE: 2003-10-01

PRIOR APPLICATION NUMBER: PCT/FP2003/011190

NUMBER OF SEQ ID NOS: 44

SOFTWARE: PatentIn version 3.2

LEAD NO 30

LEAD NO 30
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              ; TYPE: PRT
; ORGANISM: Human immunodeficiency virus + Homo sapiens + Betula verrucosa
US-11-102-883-6
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                                                                                                                                                                   Score 151; DB 7; Length 300;
Pred. No. 1.4e-14;
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                                                                                                                                                 94.4%; Scor.
100.0%; Pred. No. ...
0; Mismatches
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                                                                                                                                                                                                                                                                                                              2 KAEQVKASKEMGETLLRAVESYLLAHSDAYN 32
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Best Local Similarity 100.0
Matches 31; Conservative
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US-11-102-883-32
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US-11-102-883-32
       LENGTH: 300
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; Sequence 6, Application US/11102883
; Publication No. US20050281816A1
; CENERAL INFORMATION:
; APPLICANT: Lamping, Norbert
; APPLICANT: Crameri, Reto
; APPLICANT: Fluckiger, Sabina
APPLICANT: Baigle, Isabelle
; TITLE OF INVENTION: Modulating Immune Reactions, Associated Constructs, Methods and
; TITLE OF INVENTION: Modulating Immune Reactions, Associated Constructs, Methods and
; TITLE OF INVENTION: Would be a Thereof
; TITLE OF INVENTION: WOUNBER: ED02022774.0
; FILE REFERENCE: 03100234983
; CURRENT FILING DATE: 2005-04-11
; PRIOR APPLICATION NUMBER: PCT/EP2003/011190
; PRIOR FILING DATE: 2003-10-09
; NUMBER OF SEQ ID NOS: 44
; SOFTWARE: Patentin Version 3.2
; SEQ ID NO 6
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  APPLICANT: Crameri, Reto
APPLICANT: Fluckiger, Sabina
APPLICANT: Fluckiger, Sabina
APPLICANT: Fluckiger, Sabina
APPLICANT: Pluckiger, Sabina
APPLICANT: Pluckiger, Sabina
APPLICANT: Pluckiger, Sabina
APPLICANT: Pluckiger, Sabina
TITLE OF INVENTION: Modular Antigen Transporter Molecules (MAT Molecules) for
TITLE OF INVENTION: Modularing Immune Reactions, Associated Constructs, Methods and
TITLE OF INVENTION: USER Thereof
FILE REFERENCE: 03100234pa
CURRENT APPLICATION NUMBER: US/11/102,883
CURRENT FILING DATE: 2005-04-11
PRIOR FILING DATE: 2005-10-11
PRIOR FILING DATE: 2003-10-09
NUMBER OF SEQ ID NOS: 44
SSOCIANARE: Patentin version 3.2
SSOFTWARE: Patentin version 3.2
IENGTH: 289
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                                                                                                                                                                                                          Length 172;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Indels
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Best Local Similarity 100.0%; Pred. No. 7.4e-15;
Matches 31; Conservative 0; Mismatches 0;
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Pred. No. 1.4e-14;
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; Sequence 26, Application US/11102883
; Publication No. US20050281816A1
; GENERAL INFORMATION:
; APPLICANT: Lamping, Norbert
; APPLICANT: Crameri, Reto
                                                                                                       ; ORGANISM: Betula verrucosa
US-11-102-883-18
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US-11-102-883-26
SEQ ID NO 18
LENGTH: 172
TYPE: PRT
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US-11-102-883-6
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Bet v 1 a Major Bir Bet v I a Betula sp Birch all

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Aarc14605 Marz1796 BAY21796 BAY21796 BAY21899 JAGG141389 JAGG14136 AGG17112 MAGG17112 MAGG17112 MAGG17112 MAGG17112 MAGG17112 MAGG17112 MAGG17112 MAGG17112 MAGG17112 MAGG17110 MAGG17110 MAGG1710 MAGG17

Grass/Bir Grass/Bir Birch/Gra Modular a Birch all Birch all Birch all

Sequence:

Run on:

Searched:

Database

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The present invention relates to a new composition containing antiallergic peptides useful in the treatment of allergic diseases. The present peptide is an non-allergenic Bet v 1-derived synthetic peptide, which stimulate Bet v 1-specific human T-cells
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llarity 100.0%; Pred. No. 4e-18;
Conservative 0; Mismatches
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ABG66970
ABG66970
ADC14386
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ACAE1086
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ABG66963
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Focke M, Mahler V,
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Best Local Similarity
  Sequence 31 AA;
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ABB83635;
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                                                                                                                                    April 17, 2006, 09:42:18; Search time 46.9282 Seconds (without alignments) 290.247 Million cell updates/sec
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.
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                    GenCore version 5.1.7
Copyright (c) 1993 - 2006 Biocceleration Ltd.
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                                                                                                                                                                                                                                                                                                                                                                                             hits satisfying chosen parameters:
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                                                                                                                                                                                                                                                                                                                                                   2443163 segs, 439378781 residues
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Listing first 45 summaries

    protein search, using sw model

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ABG66969
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Perfect score:
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Maximum DB
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Gaps

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Length 31; Indels

Result No.

50 amino acids

Valenta

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Kraft

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Von Der Osten

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The invention relates to selecting a protein variant having modified immunogenicity, compared to a parent protein, comprising using the antibody binding sequence to localise epitope sequences on the three dimensional structure of the parent protein and defining an epitope area including amino acids within 5 Angstrom of the epitope amino acids. The method is useful for identifying structural epitopes on the 3-dimensional surface of commercial and environmental allargems. Compositions containing the protein variants are used as vaccines, detergents and personal care compositions, e.g. shampoo, balsam, hair conditioners, hair waving compositions, hair dyeing compositions, main tonic, hair liquid,
Allergen; protein coordinate data; vaccine; antiallergic; immunogenicity; detergent; personal care composition; cosmetic.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               hair cream, hair rinse, hair spray, chewing gum, skin cream, sunscreen, shaving foam, cream soap, skin milk or foundation. The present sequence is that of a polypeptide of the invention
                                                                                                                                                                                                                                                                                                                                                                                                                                                                Selecting protein variants having modified immunogenicity, used to produce vaccines, detergents and personal care compositions, involves localizing epitope sequences on the three-dimensional structure of a
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Immunoglobulin B; IgE; allergen; allergy; mutein; hay fever;
rhinoconductivitis; rhinitis; asthma; systemic anaphylaxis; mutant;
vaccine; antiallergic; B cell epitope.
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                                                                                                                                                                                                                               28-APR-2000; 2000DK-00000707.
10-MAY-2000; 2000US-0203345P.
28-FEB-2001; 2001DK-00000327.
21-MAR-2001; 2001US-0277817P.
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nes 30; Conservative
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                                                                Betula pendula
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          The present invention describes a recombinant mutated allergen, with a surface exposed substituted amino acid on a B-cell epitope. The recombinant, non-natural, mutated allergen has at least one surface-exposed conserved amino acid of a B-cell epitope substituted by another amino acid, and essentially the same alpha-carbon backbone tertiary structure as the naturally occurring allergen. The substituted amino acid does not occur in the same position of any known homologous protein within the taxonomic order of the natural allergen. Specific IgE binding to the mutant is reduced compared to the naturally occurring allergen. The recombinant allergen is used as a vaccine to treat, prevent or
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       alleviate allergic reactions. The present sequence represents the wild type Bet v 1, which can have the following mutations: Thr10Pro, Asp25Gly, Asn28Thr + Lys32Gln, Glu45Ser, Asn478er, Lys55Asn, Glu60Ser, Thr77Ala and Pro108Gly. (Updated on 17-OCT-2003 to standardise OS field)
                                                                                                                                                                                                                                                         pollen allergen; Fagales; Oleales; Pinales; mutant; immunoglobulin E; vaccine; allergic reaction.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      New mutated allergen with lower specific affinity to IgE, useful for
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Length 159;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           94.6%; Score 159; DB 2; I 100.0%; Pred. No. 7.1e-16; Live 0; Mismatches 0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          2 VDHTNFKYNYSVIEGGPIGDTLEKISNEIK 31
                                                                                                                                                                                                                 Wild type birch Bet v 1 protein sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Larsen JN;
                                                                  AAY45216 standard; protein; 159 AA.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ABM00015 standard; protein; 159 AA.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Example 1; Fig 3; 77pp; English.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             treatment of allergic reactions.
                                                                                                                                                                                                                                                                                                                                                                                                                                                     99WO-DK000136
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               98DK-00000364
                                                                                                                                                                          (first entry)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   (first entry)
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                                                                                                                                                    (revised)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         (ALKA-) ALK-ABELLO AS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           WPI; 1999-601103/51.
                                                                                                                                                                                                                                                         Bet v 1; Ves v 5;
Hymenoptera; IgE;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Sequence 159 AA;
                                                                                                                                                                                                                                                                                                                       Betula pendula.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               16-MAR-1998;
                                                                                                                                                                                                                                                                                                                                                                 WO9947680-A1
                                                                                                                                                                                                                                                                                                                                                                                                                                                     16-MAR-1999;
                                                                                                                                                 17-OCT-2003
05-JAN-2000
                                                                                                                                                                                                                                                                                                                                                                                                             23-SEP-1999
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Ipsen HH,
                                                                                                            AAY45216;
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WO200240676-A2

Major pollen antigen Bet V 1-A SEQ ID NO

Matches

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ABM00015 RESULT

X B X B X B X B X

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GenCore version 5.1.7
Copyright (c) 1993 - 2006 Biocceleration Ltd.
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OM protein - protein search, using sw model

April 17, 2006, 09:43:45; Search time 15.9282 Seconds Run on:

(without alignments)
187.261 Million cell updates/sec

US-10-026-911-6 168 1 CVDHTNPKYNYSVIEGGPIGDTLEKISNEIK 31 Perfect score: Sequence:

BLOSUM62 Gapop 10.0 , Gapext 0.5 Scoring table:

283416 seqs, 96216763 residues Searched: Total number of hits satisfying chosen parameters:

Minimum DB seq length: 0 Maximum DB seq length: 200000000

Post-processing: Minimum Match 0% Maximum Match 100% Listing first 45 summaries

1: pirl: * 2: pir2: * 3: pir3: * 4: pir4: * PIR 80:* Database

Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

SUMMARIES

Description		ď						$_{ m polle}$	-Sc1	1-Sc3 pr	major pollen aller	major pollen aller	major pollen aller	pollen	Sc2 prot	allergen	allergen		major allergen Cor	a)	s response	allergen	or allergen	allergen	major allergen Mal	protein -	major allergen Mal	pathogenesis-relat	pathogenesis-relat	pathogenesis-relat
QI	,	805376	C55699	F55699	155699	E55699	G55699	D55699	S47250	S47249	A57427	H55699	A55699	B55699	\$47251	830056	\$30054	830055	\$30053	T09659	T09526	T17004	T17007	T17005	T17006	S51119	JC4276	S42650	T06417	T06418
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Length		160	160	160	160	160	160	160	160	160	160	160	160	160	159	160	160	160	160	157	157	159	160	160	160	153	159	158	94	111
Query		94.6	94.0	94.0	94.0	91.1	91.1	91.1	80.4	79.2	78.0	78.0	78.0	78.0	75.6	63.7	63.7	60.1	60.1	55.4	55.4	54.2	50.0	50.0	50.0	48.2	48.2	46.4	44.6	44.6
Score		159	158	158	158	153	153	153	135	133	131	131	131	131	127	107	107	101	101	93	93	91	84	84	84	81	81	78	75	75
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Gaps

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2 VDHTNFKYNYSVIEGGPIGDTLEKISNEIK 31

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RESULT 2 C55699

pathogenesis-relat disease resistance ribosomal protein	hypothetical prote pathogenesis-relat STH-2 protein - po	STH-21 protein - p pathogenesis-relat pathogenesis-relat	hypothetical prote TSI-1 protein - to pathogenesis-relat	intracallular path pathogenesis-relat hypothetical prote pathogenesis relat
T06527 T06768 T09391	S20517 SNFB2 S35161	S35162 S52664 S42649	S20518 T07403 S47140	T10732 SNFB1 T23950 T11670
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158 159 83	158 155 155	155 155 157	158 178 158	157 156 1467 155
4 4 4 6 4 4 6 6 6 6 6	4 4 4 2 2 3 4 6 2 5 5 6 5 6 5 6 5 6 5 6 5 6 5 6 5 6 5	42.3 42.3	41.1 39.9 39.3	37.5 36.3 35.7 34.5
75 75	27.2	17 17	69 67 66	63 60 58
30 31) W W W 1 W 4 N	333	6644 601	4 4 4 4 2 E 4 2

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major pollen allergen Bet v 1 - European white birch C.Species: Beula pendula (European white birch) C.Species: Beula pendula (European white birch) C.Species: 31-Mar-1990 #sequence_revision 31-Mar-1990 #text_change 09-Jul-2004 C.Accession: 805376; JC4814; E53288 R.Breiteneder, H.; Pettenburger, K.; Bito, A.; Valenta, R.; Kraft, D.; Rumpold, H.; Sch Embo J. 8, 1935-1938, 1989 A; Title: The gene coding for the major birch pollen allergen BetvI, is highly homologou A; Reference number: 805376; MUID: 90005395; PMID: 2571499
                                                                                                                                                                                                                                                                                                                                                                                                                                                              A; Molecule type: mRNA
A; Residues: 1-160 <BRE>
A; Residues: 1-160 <BRE>
A; Residues: 1-160 <BRE>
A; Cross-references: UNIPROT: P15494; UNIPARC: UPI0000000314; EMBL: X15877; NID: 917937; PID
R; Kungl, A.J.; Susani, M.; Lindemann, A.; Machius, M.; Visser, A.J.W.G.; Scheiner, O.;
Biochem: Biophys. Res. Commun. 223, 187-192, 1996
A; Title: Evidence for an alpha helical T cell epitope in the C-terminus of the main bir
A; Reference number: JC4834; MUID: 96254050; PMID: 8660368
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        A;Croserveferences: UNIPARC:UPI000000314
R;ByEn, H; Hansen, O.C.
Mol. Immunol. 28, 1279-1288, 1991
A;Title: The NH2-terminal amino acid sequence of the immunochemically partial identical A;Title: The NH2-terminal amino acid sequence of the immunochemically partial identical A;Reference number: A53288; MUID:92072607; PMID:1961201
A;Accession: B53288
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  A;Experimental source: pollen
A;Note: sequence extracted from NCBI backbone (NCBIP:68408)
A;Note: the source is designated as Betula verrucosa
C;Comment: This protein induces IgE synthesis by B cells in a T cell dependent manner.
C;Superfamily: pathogenesis-related protein
C;Keywords: pollen
F;2-160/Product: major pollen allergen Bet v 1 #status experimental <MAT>
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             A;Molecule type: protein
A;Residues: 2-39,'XX',42-44 <IPS>
A;Cross_references: UNIPARC:UPI0000177F58; PID:g239734; PIDN:AAB20452.1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Length 160;
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94.6%; Score 159; DB 2; I

Best Local Similarity 100.0%; Pred. No. 5.2e-15;

Matches 30; Conservative 0; Mismatches 0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  A, Accession: JC4834
A, Status: nucleic acid sequence not shown
A, Molecule type: mRNA
A, Residues: 1-160 «KUN»
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ch, M.
J. Biol. Chem. 270, 2607-2613, 1995
J. Biol. Chem. 270, 2607-2613, 1995
J. Biol. Chem. 270, 2607-2613, 1995
J. Miolecule softence number: A55699, MUID:9515322; PMID:7852325
A; Molecule type: mRNA
A; Reference number: A55699, MUID:9515322; PMID:7852325
A; Molecule type: mRNA
A; Residues: 1-160 < SWO>
A; Molecule type: mRNA
A; Residues: 1-160 < SWO>
A; Molecule type: mRNA
A; Residues: 1-160 < SWO>
A; Molecule type: malogenesis-related protein
C; Reywords: pollen
C; Reywords: pollen
F;2-160/Product: major pollen allergen Bet v 11 #status experimental <MAT>
F;83/Binding site: carbohydrate (Asn) (covalent) #status absent
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           A,Molecule type: mRNA
A,Residues: 1-160 <5WO-
A,Crose-references: UNIPROT:P43179; UNIPARC:UPI000016DCF9; EMBL:X77268; NID:g452735; PII
A,Crose: the source is designated as Betula verrucosa
R,Swoboda, I.; Jilek, A.; Ferreira, F.; Vicente, O.; Hoffman-Sommergruber, K.; Heberle-I
submitted to the EMBL Data Library, January 1994
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A;Note: the source is designated as Betula verrucosa
C;Superfamily: pathogenesis-related protein
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A;Title: Isoforms of Bet v 1, the major birch pollen allergen, analyzed by liquid chrom A;Reference number: A55699; MUID:95155322; PMID:7852325
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C;Species: Betula pendula (European white birch)
C;Date: 0.1-Dec-1995 #sequence_revision 01-Dec-1995 #text_change 09-Jul-2004
C;Accession: G55699; 841902
R;Swoboda, I.; Jilek, A.; Ferreira, F.; Engel, E.; Hoffmann-Sommergruber, K.; Scheiner,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               major pollen allergen Bet v 1f/i - European white birch ("Species: Betula pendula (European white birch) ("Species: Betula pendula (European white birch) ("Species: Dec-1995 #sequence-1995 #sequence-1995 #sequence-1995 #sequence-1995 #text_change 09-Jul-2004 ("Accession: E55699; S41906; S41900 R.; Engel, E.; Hoffmann-Sommergruber, K.; Scheiner, R.swoboda, I.; Jilek, A.; Ferreira, F.; Engel, E.; Hoffmann-Sommergruber, K.; Scheiner,
                                         R;Swoboda, I.; Jilek, A.; Ferreira, F.; Engel, E.; Hoffmann-Sommergruber, K.; Scheiner,
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A;Tibe: Isoforms of Bet v l, the major birch pollen allergen, analyzed by liquid
A;Reference number: A55699; MUID:95155322; PMID:7852325
A;Accession: E55699
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91.1%; Score 153; DB 2; Length 160;
Best Local Similarity 93.3%; Pred. No. 3.7e-14;
Matches 28; Conservative 2; Mismatches 0; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Score 158; DB 2; Length 160;
Pred. No. 7.2e-15;
1; Mismatches 0; Indels
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Best Local Similarity 96.7%;
Matches 29; Conservative
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A; Status: preliminary
A; Molecule type: mRNA
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G55699
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Cispecies: Betula pendula (Buropean white Dirch)
Cispecies: 01-Dec-1995 #sequence_revision 01-Dec-1995 #text_change 09-Jul-2004
Cinate: 01-Dec-1995 #sequence_revision 01-Dec-1995 #text_change 09-Jul-2004
Cinate: 01-Dec-1995 #sequence_revision 01-Dec-1995 #text_change 09-Jul-2004
Cinate: 01-Dec-1995 #sequence_revision 01-Dec-1995 #text_chann-Sommergruber, K.; Scheiner,
Cinate: 01-Dec-1995 #sequence_revision 01-Dec-1995 #text_chann-Sommergruber, K.; Scheiner,
Cinate: 01-Dec-1995 #text_channer, Cinate: 02-Dec-1995 #text_channer,
Cinate: 01-Dec-1995 #text_channer, Cinate: 02-Dec-1995 #text_channer,
Cinate: 01-Dec-1995 #text_channer, Cinate: 02-Dec-1995 #text_channer,
Cinate: 01-Dec-1995 #text_chan
                                                                                                                                                                                                                                                                                                    J. Biol. Chem. 270, 2607-2613, 1995
A;Title: Isoforms of Bet v 1, the major birch pollen allergen, analyzed by liquid chroma A;Reference number: A55699; MUD:95155322; PMID:7852325
A;Accession: C55699
A;Residues: C55699
A;Residues: 1-160 <SWO>
A;Residues: 1-160 <SWO>
A;Coss-references: UNTROT:P43177; UNIPARC:UPI000016DCF7; EMBL:X77266; NID:g452731; PIL A;Note: the source is designated as Betula verrucosa
B;Swoboda, I.; Jilek, A.; Perreira, F.; Vicente, O.; Hoffman-Sommergruber, K.; Heberle-E submitted to the EMBL Data Library, January 1994
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C;Species: Betula pendula (European white birch)
C;Date: 01-Dec-1995 #sequence_revision 01-Dec-1995 #text_change 09-Jul-2004
C;Accession: C55699; S41901; S41898
C;Swoboda, I.; Jilek, A.; Ferreira, F.; Bngel, E.; Hoffmann-Sommergruber, K.; Scheiner, C. Misoboda, I.; Jilek, A.; Ferreira, F.; Bngel, E.; Hoffmann-Sommergruber, K.; Scheiner, J. Biol. Chem. 270. 2607-2619
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              A,Reference number: $41896
A,Accession: $41896
A,Status: preliminary
A,Molecule type: mRNA
A,Residues: 1-160 <8M2>
A,Note: the source is designated as Betula vertucosa
C,Superfamily: pathogenesis-related protein
C,Superfamily: pathogenesis-related protein
F,2-160/Product: major pollen allergen Bet v 1d/h #status experimental <MAT>
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C;Species: Betula pendula (Buropean white birch)
C;Date: 01-Dec-1995 #sequence_revision 01-Dec-1995 #text_change 09-Jul-2004
C;Accession: ISS699; S41904
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Pred. No. 7.2e-15;
1; Mismatches 0; Indels
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94.0%; Score 158; DB 2; L
Best Local Similarity 96.7%; Pred. No. 7.2e-15;
Matches 29; Conservative 1; Mismatches 0;
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Scoring table:

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A REDLINE=9437514; PubMed=10509815; DOI=10.1016/S0161-5890(99)00078-4;

A REDLINE=9437514; PubMed=10509815; DOI=10.1016/S0161-5890(99)00078-4;

A Leberl K., Scheiner O., Riordain G., Hoffmann-Sommergruber K.,

Leberl K., Scheiner O., Breiteneder H.;

Tof the protein derived from Austrian birch pollen.";

L. Mol. Immunol. 36:39-645(1999).

R. EMBL; AJ006905; CAA07320.1; -; mRNA.

R. SMR; OSCII, 2-110.

R. Richt, OSCII, 2-111.

P. Finne-Prot. IPRO0916; Bet v I.

R. Prodom; PRO0631; Bet v I; I.
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Bukaryota, Viridiplantae, Streptophyta, Embryophyta, Tracheophyta,
Spermatophyta, Magnoliophyta, eudicotyledons, core eudicots, rosids;
eurosids I: Fagales, Betulaceae, Betula.
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BEVIA BETVE

C P15491, Q95639;

DT 01-APR-1990 (Rel. 14, Created)

DT 01-APR-1990 (Rel. 14, Last sequence update)

DT 10-AMY-2005 (Rel. 14, Last sequence update)

DT 10-APR-1990 (Rel. 14, Last sequence update)

DT 10-APR-1990 (Rel. 14, Last sequence update)

Mame-BETVIA, Synonyms-BETV1;

CN Name-BETVIA, Synonyms-BETV1;

CN Betula verrucosa (White birch) (Betula pendula).

CN Betula verrucosa (White birch) (Betula Embryophyta;

CN Eukaryota; Viridiplantae; Streptophyta; Embryophyta;

CN C Spermatophyta; Magnoliophyta; eudicotyledons;

CC rosids; eurosids I; Fagales; Betulaceae; Betula.
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0098ch8 | 0098ch8 | 0098ch9 | 0098ch9 | 0091178 | 0091179 | 0091754 | 0091754 | 0091754 | 0091758 | 0091758 | 0091758 | 0091758 | 0091758 | 0091758 | 0091758 | 0091758 | 0091758 | 0091758 | 0091758 | 0091758 | 0091758 | 0091758 | 0091758 | 0091758 | 0091758 | 0091758 | 0091758 | 0091758 | 0091758 | 0091758 | 0091758 | 0091758 | 0091758 | 0091758 | 0091758 | 0091758 | 0091758 | 0091758 | 0091758 | 0091758 | 0091758 | 0091758 | 0091758 | 0091758 | 0091758 | 0091758 | 0091758 | 0091758 | 0091758 | 0091758 | 0091758 | 0091758 | 0091758 | 0091758 | 0091758 | 0091758 | 0091758 | 0091758 | 0091758 | 0091758 | 0091758 | 0091758 | 0091758 | 0091758 | 0091758 | 0091758 | 0091758 | 0091758 | 0091758 | 0091758 | 0091758 | 0091758 | 0091758 | 0091758 | 0091758 | 0091758 | 0091758 | 0091758 | 0091758 | 0091758 | 0091758 | 0091758 | 0091758 | 0091758 | 0091758 | 0091758 | 0091758 | 0091758 | 0091758 | 0091758 | 0091758 | 0091758 | 0091758 | 0091758 | 0091758 | 0091758 | 0091758 | 0091758 | 0091758 | 0091758 | 0091758 | 0091758 | 0091758 | 0091758 | 0091758 | 0091758 | 0091758 | 0091758 | 0091758 | 0091758 | 0091758 | 0091758 | 0091758 | 0091758 | 0091758 | 0091758 | 0091758 | 0091758 | 0091758 | 0091758 | 0091758 | 0091758 | 0091758 | 0091758 | 0091758 | 0091758 | 0091758 | 0091758 | 0091758 | 0091758 | 0091758 | 0091758 | 0091758 | 0091758 | 0091758 | 0091758 | 0091758 | 0091758 | 0091758 | 0091758 | 0091758 | 0091758 | 0091758 | 0091758 | 0091758 | 0091758 | 0091758 | 0091758 | 0091758 | 0091758 | 0091758 | 0091758 | 0091758 | 0091758 | 0091758 | 0091758 | 0091758 | 0091758 | 0091758 | 0091758 | 0091758 | 0091758 | 0091758 | 0091758 | 0091758 | 0091758 | 0091758 | 0091758 | 0091758 | 0091758 | 0091758 | 0091758 | 0091758 | 0091758 | 0091758 | 0091758 | 0091758 | 0091758 | 0091758 | 0091758 | 0091758 | 0091758 | 0091758 | 0091758 | 0091758 | 0091758 | 0091758 | 0091758 | 0091758 | 0091758 | 0091758 | 0091758 | 0091758 | 0091758 | 0091758 | 0091758 | 0091758 | 0091758 | 0091758 | 0091758 | 0091758 | 0091758 | 0091758 | 009175
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Pred. No. 4.5e-14;
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01-MAY-2000 (TrEMBLrel. 13, Last sequence update)
01-UJN-2003 (TrEMBLrel. 24, Last annotation update)
Pollen allergen Betvi, isoform at14.
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                     055CH9_BETVE
BEVILE_BETVE
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023750_BETVE
023751_BETVE
023751_BETVE
023742_BETVE
023748_BETVE
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QSCILI;
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30; Conserv
    992.9
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Best Local 8
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O546v0 betula

O587w1 betula

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                               GenCore version 5.1.7
Copyright (c) 1993 - 2006 Biocceleration Ltd
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168
1 CVDHTNFKYNYSVIEGGPIGDTLEKISNEIK 31
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023752_BETVE
054603_BETVE
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                                                                                                                            - protein search, using sw model
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Gapop 10.0 , Gapext 0.5
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2: uniprot_trembl:*
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Maximum DB seq length: 2000000000
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  Name=Betv1;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     the European Bioinformatics Institute. There are no restrictions on its use as long as its content is in no way modified and this statement is not
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      cause of type
                                                                           MEDLINE=90005395; PubMed=2571499;
Breiteneder H., Pettenburger K., Bito A., Valenta R., Kraft D., Rumpold H., Scheiner O., Breitenbach M.;
"The gene coding for the major birch pollen allergen Betv1, is highly homologous to a pea disease resistance response gene.";
EMBO J. 8:1935-1938(1989).
                                                                                                                                                                                                                                                                                                                                                                           Swoboda I., Jilek A., Ferreira F., Engel E., Hoffman-Sommergruber K., Schainer O., Kraft D., Breiteneder H., Pittenauer E., Schmid E., Vicente O., Heberle-Bors E., Ahorn H., Breitenbach M.; "Iseforms of Bet v 1, the major birch pollen allergen, analyzed by liquid chromatography, mass spectrometry, and cDNA cloning."; J. Biol. Chem. 270:2607-2613(1995).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               InterPro; IPR000916; Bet v. I.
Pran; Pr00407; Bet v. I.
Propon; Pr00634; Bet v. I.
Probon; Pr000531; BTTALLERGEN.
PROSITE; PS00451; PATHOGENESIS_BETVI; 1.
BROSITE; PS00451; PATHOGENESIS_BETVI; 1.
PROSITE; PS00451; PATHOGENESIS_BETVI; 1.
Bathogenesis-related protein; Plant defense.
INIT_MET 0 0
VARIANT 62 6.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   MEDLINE-91317572; PubMed=2101127;

Blasyed S., Vik H.;

"Purification and N-terminal amino acid sequence of two birch pollen

isoallergens (Bet v I and Bet v II), ";

int. Arch. Allergy Appl. Immunol. 93:378-384(1990).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             MEDLINE=97102431; PubMed=8946858; Gajhede M., Canaren J.N., Gajhede M., Osmark P., Poulsen F.M., Ipsen H., Larsen J.N., van Neerven R.J., Schou C., Loewenstein H., Spangfort M.D.; "X-ray and NMR structure of Bet v 1, the origin of birch pollen
                                                                                                                                                                                                                                                                                                                                    TISSUE=Pollen;
MEDLINE=95155122; PubMed=7852325; DOI=10.1074/jbc.270.6.2607;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            K-RAY CRYSTALLOGRAPHY (2.0 ANGSTROMS), AND STRUCTURE BY NMR.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Nat. Struct. Biol. 3:1040-1045(1996).
-!- SUBCELLULAR LOCATION: Cytoplasmic.
-!- ALLERGEN: Causes an allergic reaction in human. Is a call allergic reactions in Europe, North America and USSR.
-!- SIMILARITY: Belongs to the BetVI family.
                                                                                                                                                                                                                                                                             Submitted (SEP-1996) to the EMBL/GenBank/DDBJ databases
                                       SEQUENCE, AND PROTEIN SEQUENCE OF 1-34
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   EMBL; X15877; CAA33887.1; -; mRNA.
EMBL; Z80098; CAB02153.1; -; mRNA.
EMBL; Z80099; CAB02154.1; -; mRNA.
EMBL; Z80104; CAB02159.1; -; mRNA.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       PIR; SUD.

PDB; 1BGF; NMR; A. 159.

R PDB; 1BV1; NXR; 0=1-159.

R PDB; 1BV1; X-rxy; 0=1-159.

NR PDB; 1FSK; X-rxy; A/D/G/G-1-159.

PDB; 1LLT; X-rxy; A-1-159.

PDB; 1LLT; X-rxy; A=1-159.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   PARTIAL PROTEIN SEQUENCE.
                                                                                                                                                                                                                     NUCLEOTIDE SEQUENCE
                                                                                                                                                                                                                                                                                                                      PROTEIN SEQUENCE
  NCBI_TaxID=3505;
                                                                                                                                                                                                                                            TISSUE=Pollen;
                                                                                                                                                                                                                                                            Larsen J.N.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 TISSUB-Leaves; Cyttanich C., Larsen J.N.; cyttanich C., Larsen J.N.; perceptism using chromosomal DNA from "Studies of Bet v 1 gene polymorphism using chromosomal DNA from individual plants."; Submitted (SEP-1997) to the EMBL/GenBank/DDBJ databases. EMBL; AJ001553; CAQAB25.1; -; Genomic DNA. Pathogenesis-related protein; Plant defense.
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                                             DB 1; Length 159;
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17440 MW; 96E181194BBA83E6 CRC64;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      159 AA; 17440 MW; 96E181194BBA83E6 CRC64;
                                                                                                                                                                                                                                                                                                                                                  13-SEP-2005 (TrEMBLrel. 31, Created)
13-SEP-2005 (TrEMBLrel. 31, Last sequence update)
13-SEP-2005 (TrEMBLrel. 31, Last annotation update)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Last sequence update)
Last annotation update)
                                                       . 6e-14;
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                                             Score 159;
                                                                                                                                                                                                                                                                                                       PRT;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      01-MAY_2000 (TrEMBLrel. 13, Created) 01-MAY-2000 (TrEMBLrel. 13, Last seq 01-UTN-2003 (TrEMBLrel. 24, Last ann Pollen allergen Betv1, isoform at5.
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                                                                                                                                                                                                                                                                                                                                                                                                                        Pollen allergen, Betv1 (Fragment).
                                             94.68;
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Q9SCH6;
                                                                                                                                                                                                                                                                                                         Q546V0_BETVE PRELIMINARY;
                                                                                           30; Conservative
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Sequence 23, Appli
Sequence 14, Appli
Sequence 10, Appli
Sequence 11, Appl
Sequence 17, Appl
Sequence 2, Appli
Sequence 2, Appli
Sequence 6, Appli
Sequence 6, Appli
Sequence 6120, Ap
Sequence 8120, Ap
Sequence 8120, Ap
Sequence 8135, Ap
Sequence 18, Appli
Sequence 18, Appli
Sequence 18, Appli
Sequence 18, Appli
Sequence 4, Appli
Sequence 6, Appli
Sequence 8, Appli
                                                                                      April 17, 2006, 09:44:15; Search time 24.4917 Seconds (without alignments) 104.645 Million cell updates/sec
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GenCore version 5.1.7
Copyright (c) 1993 - 2006 Biocceleration Ltd.
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1: /cgn2_6/ptodata/1/iaa/5_COMB.pep:*

2: /cgn2_6/ptodata/1/iaa/6_COMB.pep:*

3: /cgn2_6/ptodata/1/iaa/H_COMB.pep:*

4: /cgn2_6/ptodata/1/iaa/PCTUS_COMB.pep:*

5: /cgn2_6/ptodata/1/iaa/RCOMB.pep:*

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US-07-847-010-3

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US-07-847-010-11

US-07-847-010-11

US-08-95-629C-2

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US-08-964-722-2

US-08-964-722-2

US-08-964-722-2

US-09-107-532A-7057

US-09-248-796A-23131

US-09-248-796A-23131

US-09-949-016-6925

US-09-949-016-6925

US-09-949-016-6925

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US-09-949-016-8135

US-09-949-016-8135

US-09-948-110-18

US-09-948-164-4

US-08-015-973-4

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US-08-015-986A-8

US-09-802-674-4

US-09-802-674-4

US-09-802-674-4
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168
1 CVDHTNPKYNYSVIEGGPIGDTLEKISNEIK 31
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                                                                                                                                                                                                                                                                  572060 seqs, 82675679 residues
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Maximum Match 100%
Listing first 45 summaries
                                                            OM protein - protein search, using sw model
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Match Length
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Perfect score:
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30 Sequence 30, Mg Sequence 30, Mg Sequence 30, Mg Sequence 30, Mg Sequence 10, Mg Sequence 12, Mg Sequence 12	in Follen and ion #1.25	
1 US-0B-467-948A-30 2 US-09-252-991A-30 2 US-09-538-092-627 2 US-09-538-092-627 2 US-09-171-991-9 1 US-08-949-016-10B1 1 US-08-482-13-12 1 US-08-472-173-12 1 US-08-487-16-12 1 US-08-487-16-12 1 US-08-487-16-12 1 US-08-801-499-12 1 US-08-801-499-12 1 US-08-90-074-669-12 2 US-09-074-669-12 2 US-09-074-669-12 2 US-09-074-669-12 2 US-09-074-669-12	old old old of Alder ons Thereons #1.0, Vere 47,010	: 23: S: ids
28.0 28.0 28.0 28.0 28.0 28.0 28.0 28.0	MN: Interpretation to the property of the pro	belgi PENNIE N FOR SEQ ID NO: CHARACTERISTICS 1 160 amino aci amino acid 3Y: linear TYPE: peptide ICAL. NO
228 330 330 330 330 330 330 330 330 330 33	RESULT 1 US-07-847-010-23 Sequence 23, Applia Sequence 23, Applia Parent No. 5693495 GENERAL INFORMATI APPLICANT: Rei APPLICANT: New APPLICANT: Rei COUNTRY: U. S. CONPUTER: IIS CONPUTER: IIS CONPUTER: IIS ATTREBHONE: IIS CONPUTER: IIS ATTREBHONE: JOHES RECISTRATION REFERENCE/DOM	TELEX: 66191 INFORMATION FOR SI SEQUENCE CHARACC TYPE: amino 47 TOPOLOGY: lin MOLECULE TYPE: HYPOTHETICAL: 16 COLCIANA SCHOLE

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75 VDRVNFKYSFSVIEGGAVGDALEKVCNEIK 104
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                                                                        RESULT 3
US-07-847-010-14
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                                                                                                                                                                       Indels
; ORGANISM: birch (Betula sp.); IMMEDIATE SOURCE:
; ILBRARY: POLLEN FROM ALLERGON AB, ENGELHOLM, SWEDEN
US-07-847-010-23
                                                                                                                                                                                                                                                                                                                                                                                                                                                       APPLICANT: Breiteneder, Heimo
APPLICANT: Reikerstorfer, Arnold
APPLICANT: Reikerstorfer, Arnold
APPLICANT: Valenta, Rudolf
APPLICANT: Hoffmann - Sommergruber, Karin
APPLICANT: Breitenbach, Michael
APPLICANT: Rraft, Dietrich
APPLICANT: Rumpold, Helmut
APPLICANT: Schainer, Otto
APPLICANT: Schainer, Otto
APPLICANT: Brerier, Fatima
TITLE OF INVENTION: Applications Thereof
NUMBER OF SEQUENCES: 2
CORRESPONDENCES: 2
CORRESPONDENCES: ADDRESSE: Pennie & Edmonds
STREET: 1155 Avenue of the Americas
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       STREF: 1155 Avenue of the Americas
STATE: New York
STATE: New York
COUNTRY: U.S.A.
ZIP: 10036-2711
COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
COMPUTER: PLOPSY disk
COMPUTER: PatentIn Release #1.0, Version #1.25
SOFTWARE: PatentIn Release #1.0, Version #1.25
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/07/847,010
FILING DATE: 01-JUN-1992
CLASSIFICATION: 435
ATTOANSY/AGENT INFORMATION:
NAME: JOHES III, HARTY C
REGISTRATION NUMBER: 20,280
RESTERNCE/DOCKET NUMBER: 20,280
RESTERNCE/DOCKET NUMBER: 530-010
TELECOMMUNICATION INFORMATION:
TELEPRAKE: (212) 869-9741/8864
                                                                                                                     Query Match 94.6%; Score 159; DB 1; I Best Local Similarity 100.0%; Pred. No. 6.4e-17; Matches 30; Conservative 0; Mismatches 0;
                                                                                                                                                                                                                                               75 VDHTNFKYNYSVIEGGPIGDTLEKISNEIK 104
                                                                                                                                                                                                                      2 VDHTNFKYNYSVIEGGPIGDTLEKISNEIK 31
                                                                                                                                                                                                                                                                                                                                                                                    Sequence 3, Application US/07847010
Patent No. 5693495
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INFORMATION FOR SEQ ID NO: 3:
SEQUENCE CHARACTERISTICS:
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          TYPE: amino acid
TOPOLOGY: linear
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ORIGINAL SOURCE:
ORGANISM: Ald
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Gaps ; 0 Ouery Match 63.7%; Score 107; DB 1; Length 160; Best Local Similarity 63.3%; Pred. No. 8.6e-09; Matches 19; Conservative 7; Mismatches 4; Indels POLLEN FROM ALLERGON AB, ENGELHOLM, SWEDEN APPLICANT: Reflection Applications Thereof APPLICANT: Kraft, Dietrich APPLICANT: Kraft, Dietrich APPLICANT: Rumpold, Helmut APPLICANT: Rumpold, Helmut APPLICANT: Ebner, Otto APPLICANT: Ebner, Christof APPLICANT: Ferreira, Fatima TITLE OF INVENTION: Allergens of Alder Pollen and TITLE OF INVENTION: Applications Thereof NUMBER OF SEQUENCES: 23 CORRESPONDENCE ADDRESS: CUNTRY: New York
COUNTRY: U.S.A.
ZITE: 10036-2711
COMPUTER: ELDOPY disk
COMPUTER: TIBM PC COMPATIBLE
COMPUTER: TIBM PC COMPATIBLE
COMPUTER: TIBM PC COMPATIBLE
COMPUTER: TIBM PC COMPATIBLE
COMPATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: Patentin Release #1.0, Version #1.25
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/07/847,010
FILING DATE: 0.-JUN-1992
CLASSIFICATION: 435
ATTONREY/AGENT INPOMMATION:
NAME: 20nes III, Harry C
REGISTRATION NUMBER: 20,280
REFERENCE/POCKET NUMBER: 6530-010
TELEFRAX: (212) 790-9090
TELEFRAX: (212) 790-9090
TELEFRAX: (212) 790-9090
TELEFRAX: (212) 790-9090
TELEFRAX: (212) 700-9010
TELEFRAX: (212) 669-9741/8864
TELEX: GE141 PENNIE
SEQUENCE CHARACTERISTICS: GENERAL INFORMATION:
GENERAL APPLICANT: Breiteneder, Heimo
APPLICANT: Reikerstorfer, Arnold
APPLICANT: Valenta, Rudolf
APPLICANT: Hoffmann - Sommergruber, Karin 2 VDHTNFKYNYSVIEGGPIGDTLEKISNEIK 31 STREET: 1155 Avenue of the Americas CITY: New York Sequence 14, Application US/07847010 Patent No. 5693495 Sequence 20, Application US/07847010 Patent No. 5693495 GENERAL INFORMATION: APPLICANT: Breiteneder, Heimo ORGANISM: hazel (Corylus sp.); IMMEDIATE SOURCE: LIBRARY: POLLEN FROM ALLERGON US-07-847-010-14 Pennie & Edmonds LENGTH: 160 amino acids TYPE: amino acid MOLECULE TYPE: peptide HYPOTHETICAL: NO ORIGINAL SOURCE: ORGANYEW RESULT 4 US-07-847-010-20

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Gaps

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2 VDHTNFKYNYSVIEGGPIGDTLEKISNEIK 31

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LENGTH: 159
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US-10-026-911-6
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                                                                                                                                                                               April 17, 2006, 10:01:54; Search time 37.8508 Seconds (without alignments) 342.204 Million cell updates/sec
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Sequence 6, Al
Sequence 3, Al
Sequence 92, 1
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Sequence 5,
Sequence 1,
Sequence 2,
Sequence 87,
Sequence 87,
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Sequence 1,
Sequence 6,
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Published Applications AA Main:*
1: /cgn2_6/ptodata/1/pubpaa/US07_PUBCOMB.pep:*
2: /cgn2_6/ptodata/1/pubpaa/US08_PUBCOMB.pep:*
3: /cgn2_6/ptodata/1/pubpaa/US09_PUBCOMB.pep:*
4: /cgn2_6/ptodata/1/pubpaa/US10A_PUBCOMB.pep:*
5: /cgn2_6/ptodata/1/pubpaa/US10B_PUBCOMB.pep:*
6: /cgn2_6/ptodata/1/pubpaa/US11_PUBCOMB.pep:*
GenCore version 5.1.7
Copyright (c) 1993 - 2006 Biocceleration Ltd.
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US-09-981-009B-1

US-09-847-089-34

US-09-847-089-34

US-10-001-245-3

US-10-719-553-37

US-10-698-855-5

US-10-698-855-5

US-10-440-516-1

US-10-440-516-1

US-10-440-516-1

US-10-440-516-1

US-10-199-847-208-39

US-09-847-208-39

US-09-847-208-39

US-10-001-245-4

US-10-001-245-9

US-10-440-516-6

US-10-440-516-8

US-09-847-208-37

US-09-847-208-38

US-09-847-208-38

US-09-847-208-38

US-09-14-0-516-40

US-10-440-516-40

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US-10-440-516-40
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                                                                                                                                                                                                                                                                                                            US-10-026-911-6
168
1 CVDHTNFKYNYSVIEGGPIGDTLEKISNEIK
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               1867569 seqs, 417829326 residues
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    SUMMARIES
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Post-processing: Minimum Match 0%
Maximum Match 100%
Listing first 45 summaries
                                                                                                                         OM protein - protein search, using sw model
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Gapop 10.0 , Gapext 0.5
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                                                                                                                                                                                                                                                                                                                     Title:
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Sequence 8, Appli Sequence 10, Appl Sequence 23, Appl Sequence 41, Appl Sequence 7, Appli Sequence 11, Appli Sequence 11, Appli Sequence 12, Appli Sequence 3, Appli	Sequence 4, Appli Sequence 5, Appli Sequence 7, Appli Sequence 27, Appli Sequence 43, Appl Sequence 45, Appl Sequence 46, Appl Sequence 17, Appl Sequence 17, Appl
US-10-001-245-8 US-10-001-245-10 US-10-440-516-41 US-10-440-516-41 US-10-440-516-47 US-10-001-245-7 US-10-001-245-12 US-10-001-245-12	US-10-440-516-3 US-10-440-516-4 US-10-440-516-7 US-10-440-516-27 US-10-440-516-45 US-10-440-516-46 US-10-440-516-46 US-10-440-516-19
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2 2 2 3 3 3 5 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8	0 E E A A A A A A A A A A A A A A A A A

ALIGNMENTS

US-10-026-911-6 Sequence 6, Application US/10026911 Sequence 6, Application US/10026911 GENERAL INFORMATION: SENERAL INFORMATION: APPLICANT: Pocke, Margarete APPLICANT: Sperr, Wolfgang R. APPLICANT: Valent, Peter APPLICANT: Valent, Peter APPLICANT: Valent, Radolf TITLE OF INVENTION: Allergy Vaccines and Their Preparation TITLE OF INVENTION: Allergy Vaccines CURRENT APPLICATION NUMBER: 2002-07-24 NUMBER OF SEQ ID NOS: 6 NUMBER OF SEQ ID NOS: 6	Artificial Se TORMATION: Desc FORMATION: BOLV 1-6 B Similarity 1 Similarity 1 Similarity 1	Qy 1 CVDHTNFKXNYSVIEGGPIGDTLEKISNEIK 31 	RESULT 2 US-09-981-009B-1 ; Sequence 1, Application US/09981009B ; Publication No. 282030041354A1 ; GENERAL INFORMATION: ; APPLICANT: Kjaerulff, Soren ; APPLICANT: Roggen, Erwin ; TILE OF INVENTION: Transgenic Plants ; TILE REFERENCE: 10082.200-US ; CURRENT PILIGN DATE: 2002-06-14 ; NUMBER OF SEQ ID NOS: 5 ; SOFTWARE: PatentIn version 3.1 ; SEO ID NO 1
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; Deblication No. US20050181446A1
; Gegrence 6, Application No. US20050181446A1
; GENERAL INFORMATION:
; APPLICANT: Rogen, Erwin
; APPLICANT: Svendsen, Allan
; APPLICANT: Svendsen, Allan
; APPLICANT: Svendsen, Allan
; APPLICANT: Stendsen, Allan
; APPLICANT: Stendsen, Allan
; APPLICANT: Osten, Claus
; TITLE OF INVENTION: PROTEIN VARIANTS HAVING MODIFIED IMMUNOGENICITY
; FILE REFERENCE: 10021.204-US
; CURRENT APPLICATION NUMBER: US/09/957,806A
; CURRENT FILING DATE: 2001-09-21
; NUMBER OF SEQ ID NOS: 248
; SOFTWARE: Patentin version 3.1
; SEQ ID NO 6
; LENGTH: 159
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                                                                                                    Query Match 94.6%; Score 159; DB 3; Length 159; Best Local Similarity 100.0%; Pred. No. 4.8e-15; Matches 30; Conservative 0; Mismatches 0; Indels
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   , ORGANISM: Betula verrucosa (White birch) (Betula pendula) US-09-847-208-34
                                                                                                                                                                                                                                                                                                                                                                                        Sequence 34, Application US/09847208
Publication to . US20030082190A1
GENERAL INFORMATION:
APPLICANT: Saxon, Andrew
APPLICANT: Saxon, Andrew
APPLICANT: Saxon, Andrew
APPLICANT: Shang, Ke
APPLICANT: Chang, Ke
APPLICANT: Colora
CURRENT APPLICATION NUMBER: US/09/847, 208
CURRENT FILING DATE: 2001-05-01
NUMBER OF SEQ ID NOS: 177
SOPTWARE: FastSEQ for Windows Version 4.0
SEQ ID NO 34
LENGTH: 159
TYPE: PRT
                                                                                                                                                                                                                                                     74 VDHTNFKYNYSVIEGGPIGDTLEKISNEIK 103
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Best Local Similarity 100.
Matches 30; Conservative
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ORGANISM: Betula pendula
; TYPE: PRT
; ORGANISM: Betula pendula
US-09-981-009B-1
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US-09-847-208-34
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Gaps ö Sequence 92, Application US/10001245
; Sequence 92, Application US/10001245
; Publication No. US20030175312A1
; GENERAL INPORMATION:
; APPLICANT: HOLM, Jens
; APPLICANT: IPSRN, Henrik
; APPLICANT: LARSEN, Jorgen N.
; APPLICANT: LARSEN, Jorgen N.
; APPLICANT: LARSEN, US20030175312A1e1 mutant allergens
; IILE REFERENCE: 4305/1H942-US2
; CURRENT APPLICATION NUMBER: US 60/298,170
; FILE REPLICATION NUMBER: US 60/298,170
; PRIOR FILING DATE: 2001-06-14
; PRIOR FILING DATE: 2000-11-16
; NUMBER OF SEQ ID NOS: 217
; SOFTWARE: Patentin version 3.1 JULIOLOGICA 23, Application US/10001245

Publication No. US20030175312A1

GENERAL INFORMATION:

APPLICANT: HOLM, Jens

APPLICANT: IPSEN, Henrik

APPLICANT: IPSEN, Henrik

APPLICANT: IPSEN, Jorgen N.

TILE APPLICANT: OF US20030175312A1e1 mutant allergens

FILE REFERENCE: 4305/1H942-US2

CURRENT APPLICATION NUMBER: US 60/298,170

FILE REPERENCE: 2001-11-15

PRIOR APPLICATION NUMBER: US 60/298,170

PRIOR PILING DATE: 2001-06-14

PRIOR APPLICATION NUMBER: US 60/299,170

PRIOR PILING DATE: 2000-11-16

NUMBER OF SEQ ID NOS: 217

SEQ ID NO 3:

LENGTH: 159 Ouery Match 94.6%; Score 159; DB 4; Length 159; Best Local Similarity 100.0%; Pred. No. 4.8e-15; Matches 30; Conservative 0; Mismatches 0; Indels 74 VDHTNFKYNYSVIEGGPIGDTLEKISNEIK 103 2 VDHTNFKYNYSVIEGGPIGDTLEKISNEIK 31 TYPE: PRT ORGANISM: Betula verrucosa CTHER INFORMATION: (108) (108) (108) (108) (108) (108) (108) NAME/KEY: mutation LOCATION: (28)..(28) OTHER INFORMATION: LOCATION: (32)..(32) OTHER INFORMATION: LOCATION: (45) .. (45) OTHER INFORMATION: FEATURE: NAME/KEY: mutation FEATURE: NAME/KEY: mutation RESULT 6 US-10-001-245-92 SEQ ID NO 92

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April 17, 2006, 10:05:54; Search time 6.85083 Seconds (without alignments) 192.264 Million cell updates/sec
GenCore version 5.1.7
Copyright (c) 1993 - 2006 Biocceleration Ltd.
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1 CVDHTNFKYNYSVIEGGPIGDTLEKISNEIK 31
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Total number of hits satisfying chosen parameters:
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                                                                                                                                                                                                                                                                                                                                                                                                                                                               217505 seqs, 42489236 residues
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Maximum Match 100%
Listing first 45 summaries
                                                                                                          OM protein - protein search, using sw model
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Gapop 10.0 , Gapext 0.5
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Maximum DB seq length: 2000000000
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Perfect score:
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Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

SUMMARIES

Description	Sequence 81, Appl	Sequence 18, Appl	Sequence 26, Appl	Sequence 6, Appli		Ċ	•	Sequence 187, App	Sequence 7636, Ap	Sequence 5891, Ap	Sequence 5890, Ap			Sequence 9551, Ap		-	9566,	164,	Sequence 31, Appl	Sequence 30, Appl	Sequence 5718, Ap	Sequence 1143, Ap	Sequence 15, Appl	Sequence 3529, Ap	Seguence 40, Appl
ID	US-10-498-026-81	US-11-102-883-18	US-11-102-883-26	US-11-102-883-6	US-11-172-740-184	US-11-172-740-185	US-11-172-740-186	US-11-172-740-187	US-11-079-463-7636	US-11-096-568A-5891	US-11-096-568A-5890	US-11-096-568A-5889	US-11-087-099-10360	US-11-188-298-9551	US-11-052-554A-175	US-11-182-480-62	US-11-188-298-9566	US-10-055-877-164	US-11-177-506-31	US-11-182-480-30	US-11-188-298-5718	US-10-821-234-1143	US-11-104-111-15	US-11-072-512-3529	US-11-174-150-40
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% Query Match Length DB	160	172	289	300	161	191	161	191	428	213	235	239	365	365	940	226	251	261	261	268	423	1388	227	351	419
% Query Match	94.6	94.6	94.6	94.6	45.8	45.8	45.8	45.8	36.9	29.8	29.8	29.8	29.5	29.5	29.5	28.6	28.6	28.6	28.6	28.6	28.3	28.0	27.7	27.7	27.7
Score	159	159	159	159	77	77	77	77	62	20	20	20	49	49	49	48	48	48	48	48	47.5	47	46.5	46.5	46.5
Result No.		8	m	4	5	φ	7	60	6	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25

39,	Sequence 2, Appli	Sequence 2, Appli	Sequence 2, Appli	Sequence 4, Appli	Sequence 4, Appli	Sequence 4, Appli	17,	Sequence 10, Appl	Sequence 11, Appl	Sequence 3400, Ap	Sequence 34, Appl	Sequence 394, App	Sequence 394, App	Sequence 394, App	Sequence 327, App	Sequence 556, App	Sequence 556, App	Sequence 556, App	Sequence 556, App
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7	7	7	7	7	7	7	7	7	7	7	9	9	9	7	7	9	9	9	9
436	1206	1206	1206	1210	1210	1210	224	330	342	455	943	1184	1184	1184	119	162	162	162	162
27.7	27.7	27.7	27.7	27.7	27.7	27.7	27.4	27.4	27.4	27.4	27.4	27.4	27.4	27.4	27.1	26.8	26.8	26.8	26.8
46.5	46.5	46.5	46.5	46.5	46.5	46.5	46	46	46	46	46	46	46	46	45.5	45	4.5	45	45
56	27	28	29	30	31	32	33	34	35	36	37	38	36	40	41	4	4	44	45

ALIGNMENTS

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RESULT 1

19.10-4998-026-81

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RESULT 2

US-11-102-883-18

Sequence 18, Application US/11102883
; Sequence 18, Application Wol/11102883
; Sequence 18, Application No. US20050281816A1
; Sequence 18, Application No. US20050281816A1
; GENERAL INFORMATION:
 APPLICANT: Lamping, Norbert
; APPLICANT: Crameri, Reto
 APPLICANT: Lamping, Norbert
; APPLICANT: Labsile
 TITLE OF INVENTION: Modulating Immune Reactions, Associated Constructs, Methods an
 TITLE OF INVENTION: Wodulating Immune Reactions, Associated Constructs,
 TITLE OF INVENTION: Wobellating Immune Reactions, Associated Constructs, Methods an
 TITLE OF INVENTION: Wobellating Immune Reactions, Associated Constructs,
 TITLE OF INVENTION: Wobellating Immune Reactions, Associated Constructs,
 FILE REFERENCE: 03100234pa
; CURRENT APPLICATION NUMBER: E002-04-11
; PRIOR APPLICATION NUMBER: E002-10-11
; PRIOR APPLICATION NUMBER: E0102022774.0
; PRIOR APPLICATION NUMBER: E0102022774.0
; PRIOR FILING DATE: 2003-10-09
; NUMBER OF SEQ ID NOS: 44
; SOFTWARE: PatentIn version 3.2

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Gaps

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Indela

Length 300;

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j Sequence 184, Application US/11172740

j Reduction No. US20060057724A1

general information:

APPLICANT: MASCIA, Peter

APPLICANT: MASCIA, Peter

APPLICANT: MASCIA, Peter

APPLICANT: MASCIA, Peter

APPLICANT: APPLICANT: MUCLEOTIDE SEQUENCES AND POLYPEPTIDES ENCODED THEREBY USFUL FOR TITLE OF INVENTION: NUMBER: US/11/12,740

TITLE OF INVENTION: WIGHER US/11/12,740

TITLE OF INVENTION NUMBER: 60/583,621

PRIOR PILING DATE: 2004-06-30

NUMBER OF SEQ ID NOS: 2523

SEQ ID NO 184

LENGTH. 161
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      OTHER INFORMATION: Utility: Useful for making plants with increased biomass and fol
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      OTHER INFORMATION: Utility: Useful for making plants with increased biomass
                           ; TYPE: PRT
; ORGANISM: Human immunodeficiency virus + Homo sapiens + Betula verrucosa
US-11-102-883-6
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               NAME/KEY: misc_feature
LOCATION:
OTHER INFORMATION: Utility: Useful for delaying flowering time
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     OTHER INFORMATION: Utility: Useful for making smaller plants
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45.8%; Score 77; DB 7; Length 161;
Best Local Similarity 46.7%; Pred. No. 0.0014;
Matches 14; Conservative 4; Mismatches 12; Indels
                                                                                                                             Query Match
94.6%; Score 159; DB 7; Sest Local Similarity 100.0%; Pred. No. 8.5e-15; Matches 30; Conservative 0; Mismatches 0;
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LOCATION: (1). [161)
OTHER INFORMATION: Public GI no. 32165478
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NAME/KEY: misc_feature
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LOCATION:
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                                                                                                                                                                                                                                                                                                                                                                              RESULT 5
US-11-172-740-184
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  LENGTH: 300
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Sequence 6, Application US/11102883
Sequence 6, Application US/11102883
Sequence 6, Application VUS20050281816A1
GENERAL INFORMATION:
APPLICANT: Crameri, Reto
APPLICANT: Crameri, Reto
APPLICANT: Crameri, Reto
APPLICANT: Pluckiger, Sabina
APPLICANT: Modular Antigen Transporter Molecules (MAT Molecules)
TITLE OF INVENTION: Wodular Antigen Transporter Molecules)
FILE REPRENCE: 03100349a
TITLE OF INVENTION: Uses Thereof
FILE REPRENCE: 03100349a
CURRENT APPLICATION NUMBER: US/11/102,883
CURRENT FILING DATE: 2005-04-11
PRIOR APPLICATION NUMBER: PCT/EP2003/011190
PRIOR APPLICATION NUMBER: PCT/EP2003/011190
PRIOR SEQ ID NOS: 44
SOFTWARE: Patentin version 3.2
SEQ ID NO 6
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 APPLICANT: Crameri, Reto
APPLICANT: Fluckier, Sabina
APPLICANT: Pluckier, Sabina
APPLICANT: Pluckier, Sabina
TITLE OF INVENTION: Modular Antigen Transporter Molecules (MAT Molecules) for
TITLE OF INVENTION: Uses Thereof
FILE REFERENCE: 03100234pa
CURRENT APPLICATION NUMBER: US/11/102,883
CURRENT FILING DATE: 2005-04-11
PRIOR FILING DATE: 2005-04-11
PRIOR FILING DATE: 2002-10-11
PRIOR FILING DATE: 2003-10-09
NUMBER OF SEQ ID NOS: 44
SOFTWARE: Patentin version 3.2
SEQ ID NO 26
LENGTH: 289
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Pred. No. 8.1e-15;
0; Mismatches 0; Indels
                                                                                                                                                                  Length 172;
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Best Local Similarity 100.0%; Pred. No. 4.5e-15;
Matches 30; Conservative 0; Mismatches 0;
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Sequence 26, Application US/11102883
Publication No. US20050281816A1
GENERAL INFORMATION:
APPLICANT: Lamping, Norbert
APPLICANT: Crameri, Reto
                                                     TYPE: PRT
ORGANISM: Betula verrucosa
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     , ORGANISM: tat-Ii-bet v 1
US-11-102-883-26
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SEQ ID NO 18
LENGTH: 172
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